

Solutions

1. Ans. D.

$$4.7+0.6=5.3$$

$$5.3+1.2=6.5$$

$$6.5+1.8=8.3$$

$$8.3+2.4=10.7$$

2. Ans. B.

$$7*1-1 = 6,$$

$$6*2-2=10,$$

$$10*3-3=27$$

$$27*4-4=104,$$

$$104*5-5 = 515$$

3. Ans. B.

$$11*0.5+0.5 = 6$$

$$6*1+1 = 7$$

$$7*2+2 = 16$$

$$16*4+4 = 68$$

So, next number will be

$$68*8+8 = 552$$

4. Ans. A.

The given series shows the pattern

$$13=6*2+1$$

$$38= 13*3-1$$

$$?= 38*4+1=153$$

$$764=153*5-1$$

$$4585=764*6+1$$

5. Ans. E.

This series following this pattern,

$$\times 1+2, \times 2+3, \times 3+4, \times 4+5, \times 5+6$$

$$=273 \times 5+6=\mathbf{1371}$$

6. Ans. E.

$$11200 \div 5=2240$$

$$2240 \div 4=560$$

$$560 \div 5=112$$

$$112 \div 4=28$$

$$28 \div 5=5.6$$

7. Ans. C.

According to the given equations:

$$\text{I. } x^2 - 9x + 18 = 0$$

$$x^2 - 3x - 6x + 18 = 0 = 0$$

$$x(x-3) - 6(x-3) = 0$$

$$(x-3)(x-6) = 0$$

$$x = 3, 6$$

$$\text{II. } y^2 - 11y + 18 = 0$$

$$y^2 - 9y - 2y + 18 = 0$$

$$y(y-9) - 2(y-9) = 0$$

$$(y-2)(y-9) = 0$$

$$y = 2, 9$$

After comparison of both equations, the conclusion is $x = y$ or no relation is obtained

So option (c) is the correct answer.

8. Ans. B.

$$\text{I. } x^2 - 16x + 63 = 0$$

$$\text{or, } x^2 - 9x - 7x + 63 = 0$$

$$\text{or, } x(x-9) - 7(x-9) = 0$$

$$\text{or, } (x-7)(x-9) = 0$$

$$\therefore x = 7, 9$$

$$\text{II. } y^2 - 2y - 35 = 0$$

$$\text{or, } y^2 - 7y + 5y - 35 = 0$$

$$\text{or, } y(y-7) + 5(y-7) = 0$$

$$\text{or, } (y-7)(y+5) = 0$$

$$\therefore y = 7, -5$$

Hence, $x \geq y$

9. Ans. D.

$$x^2+x-42=0$$

$$x^2+7x-6x-42=0$$

$$x(x+7)-6(x+7)=0$$

$$(x+7)(x-6)=0$$

$$(x+7)=0 \text{ or } (x-6)=0$$

$$x=-7 \text{ or } x=6$$

$$y^2-13y+42=0$$

$$y^2-7y-6y+42=0$$

$$y(y-7)-6(y-7)=0$$

$$(y-7)(y-6)=0$$

$$(y-7)=0 \text{ or } (y-6)=0$$

$$y=7 \text{ or } y=6$$

$$x \leq y$$

10. Ans. C.

$$\text{From I : } x^2 - 7x + 6 = 0$$

$$(x-6)(x-1) = 0$$

Thus, $x = 1$ or 6

From II : $11y^2 - 13y + 2 = 0$
 $(11y - 1)(y - 2) = 0$

Thus, $y = 1$ or $2/11$

$x \geq y$

11. Ans. B.

$(2X+5Y=31) \times 3$

$(7X+3Y=36) \times 5$

$6X+15Y=93$

$35X+15Y=180$

$- \quad - \quad -$

$29X \quad =87$

$X = \frac{87}{29}$

$X=3$

Substituting in $2X+5Y=31$

$2 \times 3 + 5Y = 31$

$6 + 5Y = 31$

$5Y = 31 - 6$

$5Y = 25$

$Y = 5$

$X < Y$

12. Ans. C.

$20x^2 - 81x + 63 = 0$

$20x^2 - 60x - 21x + 63 = 0$

$20x(x - 3) - 21(x - 3) = 0$

$(x - 3)(20x - 21) = 0$

$x = \frac{21}{20}, 3 \text{ ----- Eq. 1}$

$20y^2 - y - 21 = 0$

$20y^2 + 20y - 21y - 21 = 0$

$20y(y + 1) - 21(y + 1) = 0$

$(20y - 21)(y + 1) = 0$

$y = \frac{21}{20}, -1 \text{ ----- Eq. 2}$

From Eq. 1 and Eq. 2, we get

$x \geq y.$

13. Ans. B.

From the table,

Number of pens manufacture by Company R in the year 2009 = 42.6 crores

Number of pens manufactured by Company T in the year 2008 = 30.4 crores

Ratio of the number of pens manufactured by Company R in the year 2009 to that of those manufactured by Company T in the year 2008 = $42.6 : 30.4 = 213 : 152$

14. Ans. A.

From the table,

Number of pens manufactured by company P in the year 2008 = 21.8 crores

Number of pens manufactured by company P in the year 2009 = 53.0 crores

% increase in the number of pens manufactured by Company P in the year 2009, from the previous year

$= \frac{53-21.8}{21.8} \times 100\% = 143.11\% \approx 143\%$

15. Ans. B.

Average = sum of quantities/total number of quantities

From the given table,

Number of pens manufactured in year 2007 by company P = 36.6 crores

Number of pens manufactured in year 2007 by company Q = 18.1 crores

Number of pens manufactured in year 2007 by company R = 38.7 crores

Number of pens manufactured in year 2007 by company S = 43.6 crores

Number of pens manufactured in year 2007 by company T = 24.1 crores

Number of pens manufactured in year 2007 by company U = 40.5 crores

Average number of pens manufactured in year 2007 by companies

$= \frac{36.6 + 18.1 + 38.7 + 43.6 + 24.1 + 40.5}{6}$

$= 33.6 \text{ crores} = 336000000$

16. Ans. E.

Number of pens made by Company Q in 2005 = 36.5 crores

Number of pens made by Company Q in all the given years = Sum of number of pens made in each individual year.

⇒ Number of pens made by Company Q in all the given years = $51.6 + 36.5 + 43.5 + 18.1 + 23.5 + 35.7 = 208.9$ crores

% of number of pens made by Company Q in 2005 out of the total made by company Q

$= \frac{36.5}{208.9} \times 100\% = 17.4\% \approx 17\%$

17. Ans. D.

Let the number of more pens need to be manufactured by Company S in the year 2009 to make the ratio of the number of pens manufactured by Company S to that of those manufactured by Company U in the year 2009 as 54:83 be 'a'.

Number of pen made by Company S in the year 2009 = 26.5 crores

Number of pen made by Company U in the year 2009 = 41.5 crores

$$\therefore \left(\frac{26.5 + a}{41.5} \right) = \frac{54}{83}$$

$$\Rightarrow 2199.5 + 83a = 2241$$

$$\Rightarrow 83a = 41.5$$

$$\Rightarrow a = 0.5 \text{ crores} = 5000000$$

18. Ans. D.

total sweets

$$= 80 \times \frac{15}{100} \times 80 + 5 \times \frac{25}{100} \times 80 = 1,060$$

19. Ans. D.

On opening the three pipes simultaneously,

$$\text{Part of tank filled in 1 hour} = \frac{1}{18} + \frac{1}{15} - \frac{1}{45}$$

$$= \frac{5+6-2}{90} = \frac{9}{90} = \frac{1}{10}$$

Required Time = 10 minutes

20. Ans. C.

Let the CP = 100X

MP = 140X

Difference between Discount % is 10-5 = 5 %

Difference between the discount given =

$$(140X) \times (5/100) = 7X$$

This means, 7X = 35

$$\rightarrow 100X = 500$$

Hence the CP = 500

$$\text{Then, original MP} = 500 \times \frac{140}{100} = 700$$

After giving 30%, the selling price = 700

$$\times \frac{70}{100} = 490$$

\(\therefore\) there is a loss of 500-490 = Rs. 10

$$\text{Loss \%} = \frac{10}{500} \times 100 = 2\%$$

21. Ans. B.

Let the capacity of the stall be x and the capacity of the balcony be y.

Now, x + y = 3000 (i)

Also, 100x + 150y = 400000

i.e., x + 1.5y = 4000 (ii)

(ii)-(i) gives

$$0.5y = 1000, \text{ i.e., } y = 2000$$

$$\therefore x = 1000.$$

Hence, option is b.

22. Ans. E.

The ratio of incomes of A and B are 5:9

Let their incomes be 5x:9x and their savings be 3y:5y

$$\text{B saving} = 9x \times \frac{2}{3}$$

$$= 6x$$

$$\text{So } 6x = 5y$$

$$x = 5y/6$$

The ratio of their expenditures

$$(5x-3y) : (9x-5y)$$

Substituting the value of x in the above equation we get

$$= 7y:15y$$

$$= 7:15$$

23. Ans. C.

From the graph,

The no. of refrigerators sold in 2001 = 600

The no. of washing machines sold in 2001 = 380

$$\text{So, the total sale in 2001} = 600 + 380 = 980$$

And,

The no. of refrigerators sold in 2005 = 540

The no. of washing machines sold in 2005 = 500

$$\text{So, the total sale in 2005} = 540 + 500 = 1040$$

$$\therefore \text{The required ratio} = 980 : 1040 = 49 : 52.$$

24. Ans. B.

From the graph,

| Year | No. of refrigerators sold (A) | No. of washing machines sold (B) | Total sale = A + B |
|------|-------------------------------|----------------------------------|--------------------|
| 2001 | 600 | 380 | 600 + 380 = 980 |
| 2002 | 580 | 420 | 580 + 420 = 1000 |
| 2003 | 460 | 475 | 460 + 475 = 935 |
| 2004 | 525 | 445 | 525 + 445 = 970 |
| 2005 | 540 | 500 | 540 + 500 = 1040 |
| 2006 | 535 | 480 | 535 + 480 = 1015 |

\(\therefore\) We can clearly observe that the total sale was the second highest in 2006.

25. Ans. C.

From the graph,

| Year | No. of refrigerators sold (A) | No. of washing machines sold (B) | Total sale = A + B |
|------|-------------------------------|----------------------------------|--------------------|
| 2001 | 600 | 380 | 600 + 380 = 980 |
| 2002 | 580 | 420 | 580 + 420 = 1000 |
| 2003 | 460 | 475 | 460 + 475 = 935 |
| 2004 | 525 | 445 | 525 + 445 = 970 |
| 2005 | 540 | 500 | 540 + 500 = 1040 |
| 2006 | 535 | 480 | 535 + 480 = 1015 |

\(\therefore\) We can clearly say that for 3 years, the total sale was less than 1000.

26. Ans. A.

From the graph,

The no. of washing machines sold in 2003 = 475

The total no. of washing machines sold in the given years

$$= 380 + 420 + 475 + 445 + 500 + 480 = 2700$$

So, the average no. of washing machines sold in the given years = $2700/6 = 450$.

∴ The required difference = $475 - 450 = 25$.

27. Ans. D.

From the graph,

The no. of refrigerators sold in 2001 = 600

The total no. of refrigerators sold in the given years

$$= 600 + 580 + 460 + 525 + 540 + 535 = 3240$$

Then, the average no. of refrigerators sold in the given years

$$= 3240/6 = 540$$

∴ The required percentage = $[(540/600) \times 100]\% = 90\%$.

28. Ans. C.

Let a Rat takes W days & a Mouse takes C days to eat up 50 kg rice alone.

6 rats together can eat up a stock of 100 kg rice in = 15 days

So, 6 rats together can eat up a stock of 50 kg rice in = 7.5 days

Now, Let 10 mice takes ' x ' days to eat up the stock

ATQ

$$(6W+10C) \times 5 = 6W \times 7.5 \Rightarrow 10C = 3W$$

$$\text{So, } 6W \times 7.5 = 10C \times x \Rightarrow 20C \times 7.5 = 10C \times x \Rightarrow x = 15 \text{ days}$$

29. Ans. D.

Cost price = Rs. 800

Loss = 8%

$$\text{Selling price} = 800 - (800 \times 8/100)$$

$$= \text{Rs. } 800 - 64$$

$$= \text{Rs. } 736$$

$$\text{Reduction } 5\% = 736 \times 5/100$$

$$= \text{Rs. } 36.80$$

$$\text{Reduced Selling Price} = 736 - 36.80$$

$$= \text{Rs. } 699.20$$

$$\text{Selling price} = \text{Rs. } 699.20 \approx 700$$

30. Ans. D.

Let present ages of man and wife are $4x$ and $3x$ years respectively.

$$\therefore \frac{4x+4}{3x+4} = \frac{9}{7}$$

$$\Rightarrow X = 8 \text{ years}$$

Present age of man = 32 years

Present age of wife = 24 years

Now, let ' y ' years ago they were married

$$\therefore \frac{32-y}{24-y} = \frac{5}{3}$$

$$\Rightarrow 96 - 3y = 120 - 5y$$

$$\Rightarrow Y = 12 \text{ years}$$

31. Ans. A.

From the pie-chart,

The number of items produced by company A = 3960

Percentage of items produced by company A = 11

So, the total no. of items produced by six companies together

$$= 3960 \times (100/11) = 36000$$

Percentage of items produced by company C = 5

Percentage of items produced by company F = 27

So, the total no. of items produced by company C and F

$$= 36000 \times (5 + 27)\% = 36000 \times (32/100) = 11520$$

∴ The total no. of items produced by company A, C, and F

$$= 11520 + 3960 = 15480$$

32. Ans. C.

From the pie-chart,

The no. of items produced by company A = 3960

Percentage of items produced by company A = 11

So, the total no. of items produced by six companies together

$$= 3960 \times (100/11) = 36000$$

Percentage of items produced by company B = 15

Percentage of items produced by company E = 24

∴ The required difference = $36000 \times (24 - 15)\% = 36000 \times (9/100) = 3240$

33. Ans. B.

From the pie-chart,

The no. of items produced by company A = 3960

Percentage of items produced by company A = 11

So, the total no. of items produced by six companies together

$$= 3960 \times (100/11) = 36000$$

Percentage of items produced by company C = 5

So, the no. of items produced by company C = $36000 \times (5/100) = 1800$

Percentage of items produced by company D = 18

So, the no. of items produced by company D = $36000 \times (18/100) = 6480$

17% and 25% items are defective for the company C and D respectively.

Then, the no. of defective items produced by company C = $1800 \times (17/100) = 306$

And, the no. of defective items produced by company D = $6480 \times (25/100) = 1620$

\therefore The required ratio = $306 : 1620 = 17 : 90$.

34. Ans. D.

From the pie-chart,

The no. of items produced by company A = 3960

Percentage of items produced by company A = 11

So, the total no. of items produced by six companies together

$$= 3960 \times (100/11) = 36000$$

Then, the average no. of items produced by all companies = $36000/6 = 6000$

The no. of items produced by company E = 24

So, the no. of items produced by company E = $36000 \times (24/100) = 8640$

\therefore The required percentage = $[(8640/6000) \times 100]\% = 144\%$.

35. Ans. B.

From the pie-chart,

Total pie-chart = 100%

Total central angle of the pie-chart = 360°

Percentage of items produced by company F = 27

\therefore The central angle corresponds to the no. of items produced by company F = $(360^\circ/100) \times 27 = 97.2^\circ$

1 Degree = 60 min

0.1 degree = 6 min

0.2 degree = 12 min

therefore,

$97.2^\circ = 97^\circ 12'$.

36. Ans. D.

Let, A's investment = $2x$

B's investment = $3x$

C's investment = $4x$

Let, A's profit = $4y$

B's profit = $3y$

C's profit = $2y$

Let, Time of investment of A = a

Time of investment of B = b

Time of investment of C = c

According to problem,

$$\Rightarrow 2x \times a = 4y$$

$$\Rightarrow a = 2y/x$$

According to problem,

$$\Rightarrow 3x \times b = 3y$$

$$\Rightarrow b = y/x$$

According to problem,

$$\Rightarrow 4x \times c = 2y$$

$$\Rightarrow c = y/2x$$

\therefore ratio of time for which the capital has been invested,

$$\Rightarrow a : b : c$$

$$\Rightarrow (2y/x) : (y/x) : (y/2x)$$

$$\Rightarrow 2 : 1 : \frac{1}{2}$$

$$\Rightarrow 4 : 2 : 1$$

37. Ans. C.

S.P of 1st buffalo = Rs 12000

Profit = 20%

$$C.P = S.P / (100 + P\%) \times 100$$

$$\Rightarrow 12000 / 120 \times 100$$

$$\Rightarrow \text{Rs } 10000$$

S.P of 2nd buffalo = Rs 13000

Profit = 30%

$$C.P = 13000 / 130 \times 100$$

$$\Rightarrow \text{Rs } 10000$$

S.P of 3rd buffalo = Rs 31000

overall profit = 40%

Total S.P = $12000 + 13000 + 31000$

$$\Rightarrow \text{Rs } 56000$$

Total C.P = $56000 / 140 \times 100$

$$\Rightarrow \text{Rs } 40000$$

C.P of 3rd buffalo = total C.P - [C.P of 1st buffalo + C.P of 2nd buffalo]

$$\Rightarrow 40000 - [10000 + 10000]$$

$$\Rightarrow \text{Rs } 20000$$

38. Ans. B.

Let the total salary = $100x$

Investment on shopping = 13% of $100x = 13x$

Remaining amount = $(100x - 13x) = 87x$

Investment on savings = $(9/29) \cdot 87x = 27x$

Difference of savings and shopping = 9800

[Given]

$$27x - 13x = 9800$$

$$14x = 9800$$

$$x = 700$$

$$\therefore \text{salary} = 100x = 100 \cdot 700 = \text{RS } 70000$$

Remaining amount = $100x - (\text{Investment on shopping} + \text{Investment on savings})$

$$= 100x - (13x + 27x) = 60x$$

Let the amount spent on house rent and loans = y

$$\therefore 40x - 2y = 4000$$

$$x = 700$$

$$28000 - 2y = 4000$$

$$28000 - 4000 = 2y$$

So,

$$y = 24000/2 = \text{Rs } 12000$$

39. Ans. D.

$$\frac{x}{y} = \frac{9}{16}$$

$$\frac{x+10}{y+10} = \frac{2}{3}$$

After solving $y=32, x=18$

40. Ans. C.

Let the speed of the boat is S_b and the speed of water is S_w

So, \rightarrow Upstream Speed = $S_b - S_w$

$$15 \text{ Km/hr} = 20 - S_w$$

$$S_w = 5 \text{ Km/hr}$$

$$\text{Downstream Speed} = 25$$

$$\text{So, distance is } 4 \times (20 + 5) = 100 \text{ Km.}$$

41. Ans. E.

$$\text{Required difference} = 266 - 165 = 101$$

$$\text{Males in company} = \frac{86}{19+86} \times 1650 = 860$$

$$\text{Females in company} = 1650 - 860 = 790$$

$$\text{Males in designing department} = 198$$

$$\text{Employees in quality department} =$$

$$\frac{18}{100} \times 1650 = 297$$

Males in quality department =

$$\frac{5}{9} \times 297 = 165$$

Females in quality department = 132

Males in maintenance department = 77

Females in maintenance department =

$$\frac{5}{7} \times 77 = 55$$

Females in designing department = 165

Males in HR department = $77 \times 2 = 154$

Males in production department = 860 -

$$(198 + 165 + 77 + 154) = 266$$

Females in production department =

$$\frac{19}{14} \times 266 = 361$$

$$\text{Females in HR department} = 790 - (132 + 55 + 165 + 361) = 77$$

42. Ans. B.

$$\text{Required percentage} = \frac{361}{790} \times 100 \approx 45.7\%$$

$$\text{Males in company} = \frac{86}{19+86} \times 1650 = 860$$

$$\text{Females in company} = 1650 - 860 = 790$$

$$\text{Males in designing department} = 198$$

$$\text{Employees in quality department} =$$

$$\frac{18}{100} \times 1650 = 297$$

Males in quality department =

$$\frac{5}{9} \times 297 = 165$$

Females in quality department = 132

Males in maintenance department = 77

Females in maintenance department =

$$\frac{5}{7} \times 77 = 55$$

Females in designing department = 165

Males in HR department = $77 \times 2 = 154$

Males in production department = 860 -

$$(198 + 165 + 77 + 154) = 266$$

Females in production department =

$$\frac{19}{14} \times 266 = 361$$

$$\text{Females in HR department} = 790 - (132 + 55 + 165 + 361) = 77$$

43. Ans. B.

Required percentage =

$$\frac{165-55}{165} \times 100 = 66\frac{2}{3}\%$$

$$\text{Males in company} = \frac{86}{19+86} \times 1650 = 860$$

Females in company = 1650 - 860 = 790
 Males in designing department = 198
 Employees in quality department =

$$\frac{18}{100} \times 1650 = 297$$

Males in quality department =

$$\frac{5}{9} \times 297 = 165$$

Females in quality department = 132

Males in maintenance department = 77

Females in maintenance department =

$$\frac{5}{7} \times 77 = 55$$

Females in designing department = 165

Males in HR department = $77 \times 2 = 154$

Males in production department = 860 -
 (198 + 165 + 77 + 154) = 266

Females in production department =

$$\frac{19}{14} \times 266 = 361$$

Females in HR department = 790 - (132 +
 55 + 165 + 361) = 77

44. Ans. B.

No. of males in designing, quality and HR
 departments

$$= 198 + 165 + 154 = 517$$

No. of females in Designing, maintenance
 and production department

$$= 361 + 55 + 165 = 581$$

Difference = 64

$$\text{Males in company} = \frac{86}{19+86} \times 1650 = 860$$

Females in company = 1650 - 860 = 790

Males in designing department = 198

Employees in quality department =

$$\frac{18}{100} \times 1650 = 297$$

Males in quality department =

$$\frac{5}{9} \times 297 = 165$$

Females in quality department = 132

Males in maintenance department = 77

Females in maintenance department =

$$\frac{5}{7} \times 77 = 55$$

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Males in HR department = $77 \times 2 = 154$

Males in production department = 860 -
 (198 + 165 + 77 + 154) = 266

Females in production department =

$$\frac{19}{14} \times 266 = 361$$

Females in HR department = 790 - (132 +
 55 + 165 + 361) = 77

45. Ans. B.

Females shifted from quality

$$\text{Department} \frac{5}{12} \times 132 = 55$$

Females in HR department = 77 + 55 = 132

Males in HR department = 154

$$\frac{154}{132} = 1.17$$

$$\text{Males in company} = \frac{86}{19+86} \times 1650 = 860$$

Females in company = 1650 - 860 = 790

Males in designing department = 198

Employees in quality department =

$$\frac{18}{100} \times 1650 = 297$$

Males in quality department =

$$\frac{5}{9} \times 297 = 165$$

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$$\frac{5}{7} \times 77 = 55$$

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Males in HR department = $77 \times 2 = 154$

Males in production department = 860 -
 (198 + 165 + 77 + 154) = 266

Females in production department =

$$\frac{19}{14} \times 266 = 361$$

Females in HR department = 790 - (132 +
 55 + 165 + 361) = 77

46. Ans. C.

Let the distance be x km.

$$x/60 - (200-x)/80 = 1$$

$$(4x-600+3x)/240 = 1$$

$$7x - 600 = 240$$

$$x = 120 \text{ km.}$$

47. Ans. C.

Acc to LCM method

$$P \ 30 \ \text{Eff}(P) = 6$$

$$\text{LCM} = 180$$

$$Q \ 36 \ \text{Eff}(Q) = 5$$

Therefore,
 $(5+6) * 5 + 5 * \text{No of days Q works Alone} = 180$

No of days Q works Alone = 25

48. Ans. A.

25% = 1/4

| | | |
|-------|----------|-----|
| | Original | New |
| Price | 4 | 5 |
| cons. | 5 | 4 |
| | | |

So, original price = $\frac{160}{5} = 32 \text{ Rs./kg.}$

49. Ans. A.

$$\text{Required ratio} = \frac{\frac{2}{5} \times 20 + \frac{3}{7} \times 28}{\frac{3}{5} \times 20 + \frac{4}{7} \times 28} = \frac{20}{28} = \frac{5}{7}$$

50. Ans. C.

Happy

Then, are 5 letters.

And number of words formed = $\frac{5!}{2!}$

$$= \frac{5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = \frac{120}{2} = 60$$

51. Ans. C.

From the given question,

- J sits on an extreme end of the line.
- There are two persons between J and the one who likes Red.
- The one who likes Yellow sits third to the right of M. I is on the immediate left of M. The person who likes Pink sits second to the left of I.
- The one who likes Blue is an immediate neighbour of the one who likes Yellow.
- H sits second to the right of N, who likes neither Yellow nor Pink.
- Only two persons sit between K and the one who likes Red.
- G and L are immediate neighbours and both of them do not like Yellow.
- The one who likes Brown sits second to the left of G.
- One of the immediate neighbours of M likes Black.
- The person who likes Orange sits second to the right of G.

| | | | | | | | |
|-------|------|-------|-----|--------|-------|------|--------|
| J | L | G | I | M | N | K | H |
| Brown | Pink | Green | Red | Orange | Black | Blue | Yellow |

52. Ans. D.

From the given question,

- J sits on an extreme end of the line.
- There are two persons between J and the one who likes Red.
- The one who likes Yellow sits third to the right of M. I is on the immediate left of M. The person who likes Pink sits second to the left of I.
- The one who likes Blue is an immediate neighbour of the one who likes Yellow.
- H sits second to the right of N, who likes neither Yellow nor Pink.
- Only two persons sit between K and the one who likes Red.
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- The one who likes Brown sits second to the left of G.
- One of the immediate neighbours of M likes Black.
- The person who likes Orange sits second to the right of G.

| | | | | | | | |
|-------|------|-------|-----|--------|-------|------|--------|
| J | L | G | I | M | N | K | H |
| Brown | Pink | Green | Red | Orange | Black | Blue | Yellow |

53. Ans. A.

From the given question,

- J sits on an extreme end of the line.
- There are two persons between J and the one who likes Red.
- The one who likes Yellow sits third to the right of M. I is on the immediate left of M. The person who likes Pink sits second to the left of I.
- The one who likes Blue is an immediate neighbour of the one who likes Yellow.
- H sits second to the right of N, who likes neither Yellow nor Pink.
- Only two persons sit between K and the one who likes Red.
- G and L are immediate neighbours and both of them do not like Yellow.
- The one who likes Brown sits second to the left of G.
- One of the immediate neighbours of M likes Black.

10. The person who likes Orange sits second to the right of G.

| | | | | | | | |
|-------|------|-------|-----|--------|-------|------|--------|
| J | L | G | I | M | N | K | H |
| Brown | Pink | Green | Red | Orange | Black | Blue | Yellow |

54. Ans. B.

From the given question,

- J sits on an extreme end of the line.
- There are two persons between J and the one who likes Red.
- The one who likes Yellow sits third to the right of M. I is on the immediate left of M. The person who likes Pink sits second to the left of I.
- The one who likes Blue is an immediate neighbour of the one who likes Yellow.
- H sits second to the right of N, who likes neither Yellow nor Pink.
- Only two persons sit between K and the one who likes Red.
- G and L are immediate neighbours and both of them do not like Yellow.
- The one who likes Brown sits second to the left of G.
- One of the immediate neighbours of M likes Black.
- The person who likes Orange sits second to the right of G.

| | | | | | | | |
|-------|------|-------|-----|--------|-------|------|--------|
| J | L | G | I | M | N | K | H |
| Brown | Pink | Green | Red | Orange | Black | Blue | Yellow |

55. Ans. C.

From the given question,

- J sits on an extreme end of the line.
- There are two persons between J and the one who likes Red.
- The one who likes Yellow sits third to the right of M. I is on the immediate left of M. The person who likes Pink sits second to the left of I.
- The one who likes Blue is an immediate neighbour of the one who likes Yellow.
- H sits second to the right of N, who likes neither Yellow nor Pink.
- Only two persons sit between K and the one who likes Red.
- G and L are immediate neighbours and both of them do not like Yellow.
- The one who likes Brown sits second to the left of G.

9. One of the immediate neighbours of M likes Black.

10. The person who likes Orange sits second to the right of G.

| | | | | | | | |
|-------|------|-------|-----|--------|-------|------|--------|
| J | L | G | I | M | N | K | H |
| Brown | Pink | Green | Red | Orange | Black | Blue | Yellow |

56. Ans. D.

The least possible Venn diagram for the given statements is as follows:-



Conclusions:

- Some ties are not cloths. (It is sure, hence true)
 - Some pins are not shoes. (It is sure, hence true)
- Hence, only conclusion both is true.

57. Ans. C.

The least possible Venn diagram for the given statements is as follows:-

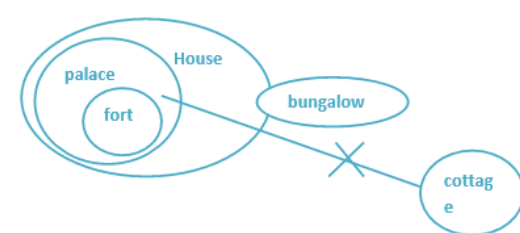


Conclusions:

- Some hike is not amazon. (False)
 - All hike can be amazon (It is a positive possibility, hence true)
- Hence, only conclusion 2 is true.

58. Ans. D.

The least possible Venn diagram for the given statements is as follows:-

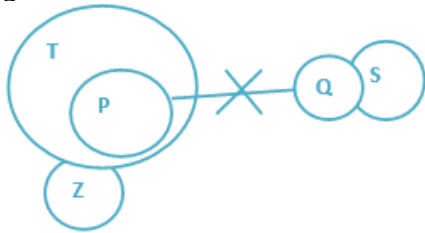


Conclusions:

- Some cottag e can be house. (It is a positive possibility, hence true)
 - All bungalow can be cottag e (It is a positive possibility, hence true)
- Hence, only conclusion 1 and 2 are true.

59. Ans. C.

The least possible Venn diagram for the given statements is as follows: -

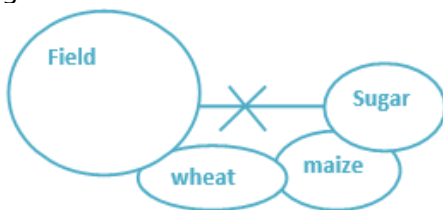


Conclusions:

- 1) Some Z are Q. (it is not sure, hence false)
 - 2) All Z are not Q can be a possibility. (it can be possible hence true)
- Hence, only conclusion 2 is true.

60. Ans. A.

The least possible Venn diagram for the given statements is as follows: -



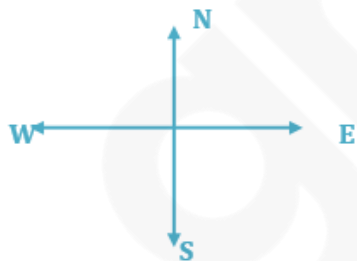
Conclusions:

- 1) Some sugar is not wheat. (It is not sure, hence false)
- 2) No field is maze. (It is not sure, hence false)

Hence, No conclusion is true.

61. Ans. E.

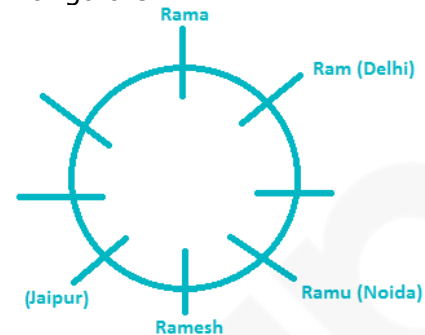
In the given question we can see that direction sense is also necessary so first of all we have to make a direction sense diagram:



- 1) Ram is facing to the southwest direction and he goes to Delhi.
- 2) Ram is sitting in front of the one who is going to Jaipur.

3) Ramesh is sitting opposite to Rama, who does not go to Gurugram and facing south.

4) Ramu is facing north – west direction and likes to go Noida. Rohit is going to Bangalore.

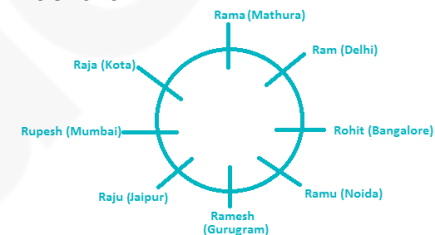


5) Raja, who is going to kota is not facing east direction and he is not sitting between Ram and Ramu.

6) Rupesh is going to Mumbai and is sitting opposite to one who is facing west.

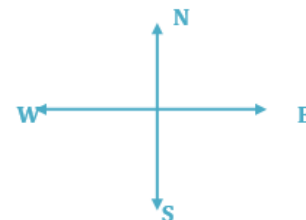
7) Raju is facing north – east direction.

8) The person who sits between the one who likes to go kota and Delhi, is going to Mathura.



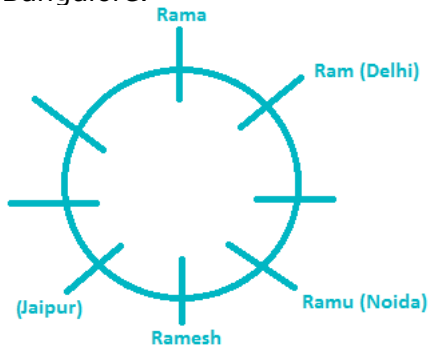
62. Ans. C.

In the given question we can see that direction sense is also necessary so first of all we have to make a direction sense diagram:

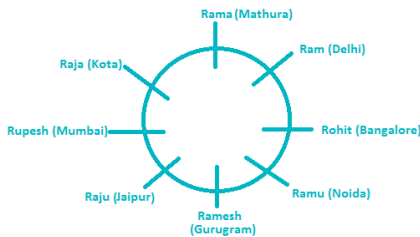


- 1) Ram is facing to the southwest direction and he goes to Delhi.
- 2) Ram is sitting in front of the one who is going to Jaipur.
- 3) Ramesh is sitting opposite to Rama, who does not go to Gurugram and facing south.

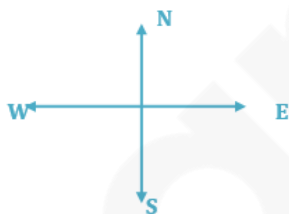
4) Ramu is facing north – west direction and likes to go Noida. Rohit is going to Bangalore.



- 5) Raja, who is going to kota is not facing east direction and he is not sitting between Ram and Ramu.
- 6) Rupesh is going to Mumbai and is sitting opposite to one who is facing west.
- 7) Raju is facing north – east direction.
- 8) The person who sits between the one who likes to go kota and Delhi, is going to Mathura.

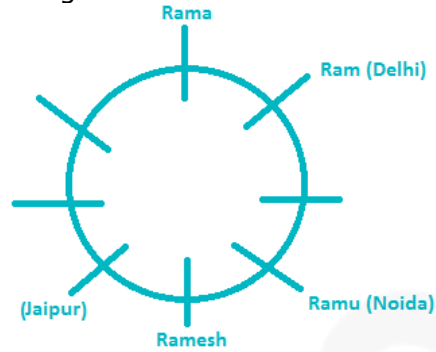


63. Ans. E.
In the given question we can see that direction sense is also necessary so first of all we have to make a direction sense diagram:

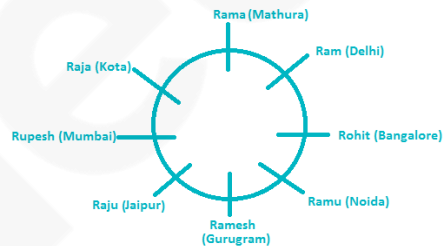


- 1) Ram is facing to the southwest direction and he goes to Delhi.
- 2) Ram is sitting in front of the one who is going to Jaipur.
- 3) Ramesh is sitting opposite to Rama, who does not go to Gurugram and facing south.
- 4) Ramu is facing north – west direction and likes to go Noida. Rohit is going to

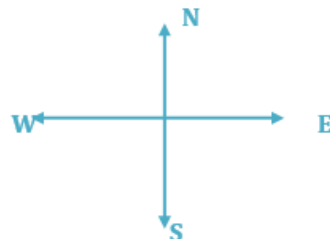
Bangalore.



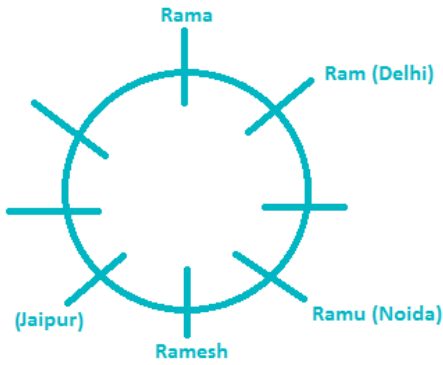
- 5) Raja, who is going to kota is not facing east direction and he is not sitting between Ram and Ramu.
- 6) Rupesh is going to Mumbai and is sitting opposite to one who is facing west.
- 7) Raju is facing north – east direction.
- 8) The person who sits between the one who likes to go kota and Delhi, is going to Mathura.



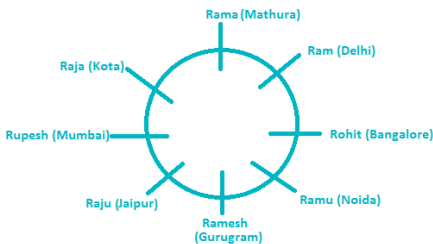
64. Ans. E.
In the given question we can see that direction sense is also necessary so first of all we have to make a direction sense diagram:



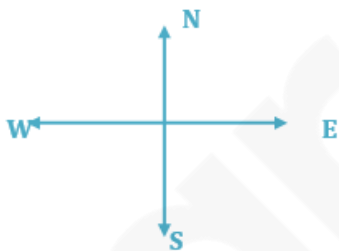
- 1) Ram is facing to the southwest direction and he goes to Delhi.
- 2) Ram is sitting in front of the one who is going to Jaipur.
- 3) Ramesh is sitting opposite to Rama, who does not go to Gurugram and facing south.
- 4) Ramu is facing north – west direction and likes to go Noida. Rohit is going to Bangalore.



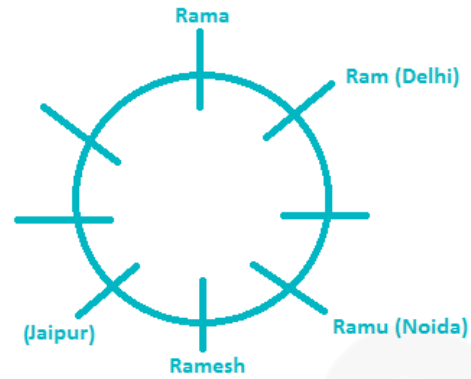
- 5) Raja, who is going to kota is not facing east direction and he is not sitting between Ram and Ramu.
- 6) Rupesh is going to Mumbai and is sitting opposite to one who is facing west.
- 7) Raju is facing north – east direction.
- 8) The person who sits between the one who likes to go kota and Delhi, is going to Mathura.



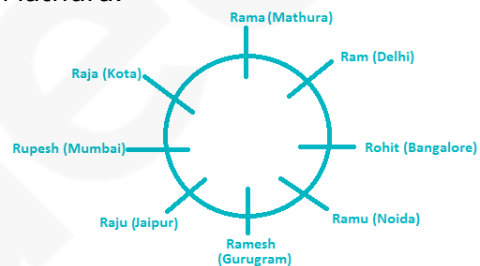
65. Ans. D.
In the given question we can see that direction sense is also necessary so first of all we have to make a direction sense diagram:



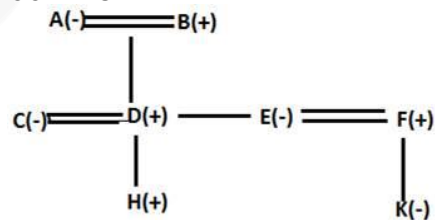
- 1) Ram is facing to the southwest direction and he goes to Delhi.
- 2) Ram is sitting in front of the one who is going to Jaipur.
- 3) Ramesh is sitting opposite to Rama, who does not go to Gurugram and facing south.
- 4) Ramu is facing north – west direction and likes to go Noida. Rohit is going to Bangalore.



- 5) Raja, who is going to kota is not facing east direction and he is not sitting between Ram and Ramu.
- 6) Rupesh is going to Mumbai and is sitting opposite to one who is facing west.
- 7) Raju is facing north – east direction.
- 8) The person who sits between the one who likes to go kota and Delhi, is going to Mathura.

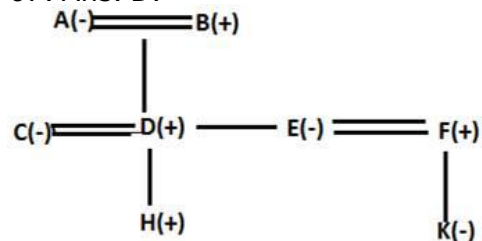


66. Ans. A.



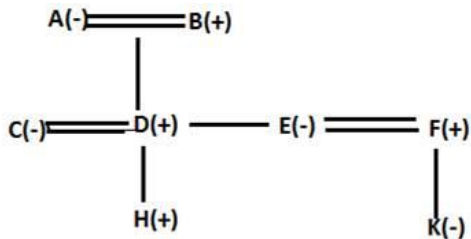
As per the given diagram, it is clear that **H is a grandson of B.**

67. Ans. D.



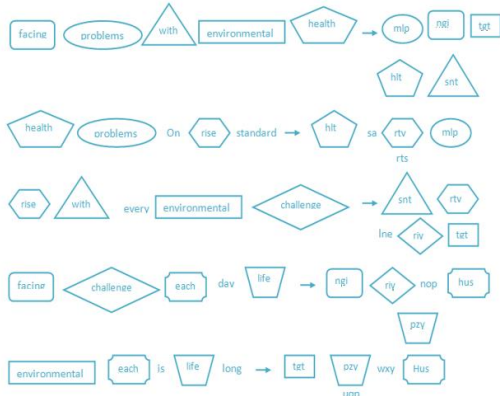
As per the diagram, it is clear that **F is the son-in-law of A.**

68. Ans. C.



As per the given diagram, C is the sister-in-law of F

69. Ans. C.



Code for 'each' is either 'hus' or 'pzy'
 Code for 'problems' is either 'hlt' or 'mlp'
 Code for 'facing' is 'ngi'
 Code for 'challenge' is 'riy'
 Hence possible code for 'problems facing each challenge' is either 'mlp ngi hus riy' or 'hlt ngi pzy riy'.

70. Ans. A.

Code for 'rts' is either 'on' or 'standard'
 Code for 'uqp' is either 'is' or 'long'
 Code for 'nop' is 'day'
 Hence possible code for 'rts uqp nop' is either 'on day is' or 'standard long day' but here only one option is available 'on day is' so it is the answer.

71. Ans. E.

Code for 'health' is either 'mlp' or 'hlt'
 Code for 'problems' is either 'mlp' or 'hlt'
 Code for 'rise' is 'rtv'
 Code for standard is either 'sa' or 'rts'
 But code for 'health problems rise standard' is 'hlt mlp rtv rts' above given so we can assure that 'standard' code is for 'rts'
 Hence possible code for 'standard' is 'rts'.

72. Ans. D.

Code for 'problems' is either 'mlp' or 'hlt'.

73. Ans. C.

Code for 'environmental challenge' is 'tgt riy'.

74. Ans. C.

Order of clues to be used:

1) Only three persons visit the site between A and C.

2) C visits immediately before G and B visits immediately after A.

2 cases:

Case 1: A B __ C G or

Case 2: C G __ A B

But case 1 will be eliminated: 3) B visits the site in the month with more than 30 days.

Next, we have:

4) Only 2 persons visit the site between G and E.

5) E visits the site before G.

Case 2: E _ C G __ A B

Next, we have:

6) E does not visit the site on 18th of any month.

7) There are two persons who visit the site between F and H.

8) F visits the site before H and does not visit in the month with 31 days.

9) A does not visit in a month with 30 days and B does not visit the site before or after H.

10) One person visits between B and D.

This is our final case which follows all the conditions.

10 FEB--E

18 FEB--F

10 APR--C

18 APR--G

10 JUL--H

18 JUL--D

10 AUG--A

18 AUG--B

75. Ans. C.

Order of clues to be used:

1) Only three persons visit the site between A and C.

2) C visits immediately before G and B visits immediately after A.

2 cases:

Case 1: A B __ C G or

Case 2: C G __ A B

But case 1 will be eliminated: 3) B visits the site in the month with more than 30 days.

Next, we have:

4) Only 2 persons visit the site between G and E.

5) E visits the site before G.

Case 2: E _ C G _ _ A B

Next, we have:

6) E does not visit the site on 18th of any month.

7) There are two persons who visit the site between F and H.

8) F visits the site before H and does not visit in the month with 31 days.

9) A does not visit in a month with 30 days and B does not visit the site before or after H.

10) One person visits between B and D.

This is our final case which follows all the conditions.

10 FEB--E

18 FEB--F

10 APR--C

18 APR--G

10 JUL--H

18 JUL--D

10 AUG--A

18 AUG—B

76. Ans. B.

Order of clues to be used:

1) Only three persons visit the site between A and C.

2) C visits immediately before G and B visits immediately after A.

2 cases:

Case 1: A B _ _ C G or

Case 2: C G _ _ A B

But case 1 will be eliminated: 3) B visits the site in the month with more than 30 days.

Next, we have:

4) Only 2 persons visit the site between G and E.

5) E visits the site before G.

Case 2: E _ C G _ _ A B

Next, we have:

6) E does not visit the site on 18th of any month.

7) There are two persons who visit the site between F and H.

8) F visits the site before H and does not visit in the month with 31 days.

9) A does not visit in a month with 30 days and B does not visit the site before or after H.

10) One person visits between B and D.

This is our final case which follows all the conditions.

10 FEB--E

18 FEB--F

10 APR--C

18 APR--G

10 JUL--H

18 JUL--D

10 AUG--A

18 AUG—B

77. Ans. D.

Order of clues to be used:

1) Only three persons visit the site between A and C.

2) C visits immediately before G and B visits immediately after A.

2 cases:

Case 1: A B _ _ C G or

Case 2: C G _ _ A B

But case 1 will be eliminated: 3) B visits the site in the month with more than 30 days.

Next, we have:

4) Only 2 persons visit the site between G and E.

5) E visits the site before G.

Case 2: E _ C G _ _ A B

Next, we have:

6) E does not visit the site on 18th of any month.

7) There are two persons who visit the site between F and H.

8) F visits the site before H and does not visit in the month with 31 days.

9) A does not visit in a month with 30 days and B does not visit the site before or after H.

10) One person visits between B and D.

This is our final case which follows all the conditions.

10 FEB--E

18 FEB--F

10 APR--C

18 APR--G
 10 JUL--H
 18 JUL--D
 10 AUG--A
 18 AUG--B
 78. Ans. A.

Order of clues to be used:

- 1) Only three persons visit the site between A and C.
- 2) C visits immediately before G and B visits immediately after A.

2 cases:

Case 1: A B _ _ C G or

Case 2: C G _ _ A B

But case 1 will be eliminated: 3) B visits the site in the month with more than 30 days.

Next, we have:

4) Only 2 persons visit the site between G and E.

5) E visits the site before G.

Case 2: E _ C G _ _ A B

Next, we have:

6) E does not visit the site on 18th of any month.

7) There are two persons who visit the site between F and H.

8) F visits the site before H and does not visit in the month with 31 days.

9) A does not visit in a month with 30 days and B does not visit the site before or after H.

10) One person visits between B and D.

This is our final case which follows all the conditions.

10 FEB--E
 18 FEB--F
 10 APR--C
 18 APR--G
 10 JUL--H
 18 JUL--D
 10 AUG--A
 79. Ans. A.

As per the question,

Greene > Bolt (9.68 sec) > Powell > Blake (9.98 sec) > Carter > Gatlin

Speed of Greene is greater than Bolt so $100/9.68$ i.e 10.33 m/sec

Hence, 11 m/sec is the answer.

80. Ans. B.

As per the question,

Greene > Bolt (9.68 sec) > Powell > Blake (9.98 sec) > Carter > Gatlin

81. Ans. E.

As per the question,

Greene > Bolt (9.68 sec) > Powell > Blake (9.98 sec) > Carter > Gatlin

Speed of Blake = $100/9.98 = 10.02$ m/sec
 So Either Carter or Gatlin has the speed of 9 m/sec.

82. Ans. D.

Boxes: P, Q, R, S, T, U, V, W and X

1) There are 5 boxes between box P and box R.

2) Box T is kept immediately above R.

| Case - 1 | Case - 2 |
|----------|----------|
| | T |
| P | R |
| | |
| | |
| | |
| | |
| T | |
| R | P |

3) 3 boxes are kept between box T and box S.

| Case - 1.1 | Case - 1.2 | Case - 2.1 | Case - 2.2 |
|------------|------------|------------|------------|
| | | T | S |
| P | P | R | |
| S | | | |
| | | | |
| | | S | T |
| | | | R |
| T | T | | |
| R | R | P | |
| | | | |
| | | | |
| | S | | |
| | | | P |

4) The number of boxes between P and S is same as the number of boxes between T and Q.

5) There are less than 13 boxes kept in the stack.

| Case - 1.1 | Case - 2.1 (A) | Case - 2.1 (B) |
|------------|----------------|----------------|
| | Q | |
| | | |
| | T | T |
| P | R | R |
| S | | |
| | | Q |
| | S | S |
| Q | | |
| T | | |
| R | P | P |
| | | |
| | | |
| | | |
| | | |

(Here case - 2.2 gets eliminated as here we get more than 13 boxes)

(Similarly, case 1.2 gets eliminated as here we get 13 boxes, but we want less than 13 boxes)

6) Box U is kept below box Q but above P.
(here case - 1.1 will get eliminated)

7) There is only one box kept between U and V.

(Here case 2.1 (B) will get eliminated)

| Case - 2.1 (A) |
|----------------|
| Q |
| |
| |
| T |
| R |
| |
| U/V |
| S |
| V/U |
| |
| P |

8) Box W is kept somewhere above X.

9) There are as many boxes kept between V and S as there are between Q and Y
(as there is no box kept between V and S therefore there will not be any box between Q and Y)

10) Box Z is kept somewhere above R.

11) Box Y is kept below Q.

| |
|-----|
| Q |
| Y |
| Z |
| T |
| R |
| W |
| U/V |
| S |
| V/U |
| X |
| P |

Hence, box W is sixth from the bottom in the given arrangement.

83. Ans. A.

Boxes: P, Q, R, S, T, U, V, W and X

1) There are 5 boxes between box P and box R.

2) Box T is kept immediately above R.

| Case - 1 | Case - 2 |
|----------|----------|
| | T |
| P | R |
| | |
| | |
| | |
| T | |
| R | P |

3) 3 boxes are kept between box T and box S.

| Case - 1.1 | Case - 1.2 | Case - 2.1 | Case - 2.2 |
|------------|------------|------------|------------|
| | | T | S |
| P | P | R | |
| S | | | |
| | | S | T |
| | | | R |
| T | T | | |
| R | R | P | |
| | | | |
| | S | | |
| | | | P |

- 4) The number of boxes between P and S is same as the number of boxes between T and Q.
 5) There are less than 13 boxes kept in the stack.

| Case - 1.1 | Case - 2.1 (A) | Case - 2.1 (B) |
|------------|----------------|----------------|
| | Q | |
| | | |
| | | |
| | T | T |
| P | R | R |
| S | | |
| | | Q |
| | S | S |
| Q | | |
| T | | |
| R | P | P |
| | | |
| | | |
| | | |
| | | |

- (Here case - 2.2 gets eliminated as here we get more than 13 boxes)
 (Similarly, case 1.2 gets eliminated as here we get 13 boxes, but we want less than 13 boxes)
 6) Box U is kept below box Q but above P. (here case - 1.1 will gets eliminated)
 7) There is only one box kept between U and V.
 (Here case 2.1 (B) will gets eliminated)

| Case - 2.1 (A) |
|----------------|
| Q |
| |
| |
| T |
| R |
| |
| U/V |
| S |
| V/U |
| |
| P |

- 8) Box W is kept somewhere above X.
 9) There are as many boxes kept between V and S as there are between Q and Y
 (as there is no box kept between V and S

- therefore there will not be any box between Q and Y)
 10) Box Z is kept somewhere above R.
 11) Box Y is kept below Q.

| |
|-----|
| Q |
| Y |
| Z |
| T |
| R |
| W |
| U/V |
| S |
| V/U |
| X |
| P |

Hence, U and V are kept immediately above and below box Q.

84. Ans. C.

Boxes: P, Q, R, S, T, U, V, W and X

- 1) There are 5 boxes between box P and box R.
 2) Box T is kept immediately above R.

| Case - 1 | Case - 2 |
|----------|----------|
| | T |
| P | R |
| | |
| | |
| | |
| T | |
| R | P |

- 3) 3 boxes are kept between box T and box S.

| Case - 1.1 | Case - 1.2 | Case - 2.1 | Case - 2.2 |
|------------|------------|------------|------------|
| | | T | S |
| P | P | R | |
| S | | | |
| | | S | T |
| | | | R |
| T | T | | |
| R | R | P | |
| | | | |
| | | | |
| | S | | |
| | | | P |

- 4) The number of boxes between P and S is same as the number of boxes between T and Q.
 5) There are less than 13 boxes kept in the stack.

| Case - 1.1 | Case - 2.1 (A) | Case - 2.1 (B) |
|------------|----------------|----------------|
| | Q | |
| | | |
| | | |
| | T | T |
| P | R | R |
| S | | |
| | | Q |
| | S | S |
| Q | | |
| T | | |
| R | P | P |
| | | |
| | | |
| | | |
| | | |

- (Here case - 2.2 gets eliminated as here we get more than 13 boxes)
 (Similarly, case 1.2 gets eliminated as here we get 13 boxes, but we want less than 13 boxes)
 6) Box U is kept below box Q but above P. (here case - 1.1 will get eliminated)
 7) There is only one box kept between U and V.
 (Here case 2.1 (B) will get eliminated)

| Case - 2.1 (A) |
|----------------|
| Q |
| |
| |
| T |
| R |
| |
| U/V |
| S |
| V/U |
| |
| P |

- 8) Box W is kept somewhere above X.
 9) There are as many boxes kept between V and S as there are between Q and Y

- (as there is no box kept between V and S therefore there will not be any box between Q and Y)
 10) Box Z is kept somewhere above R.
 11) Box Y is kept below Q.

| |
|-----|
| Q |
| Y |
| Z |
| T |
| R |
| W |
| U/V |
| S |
| V/U |
| X |
| P |

- Box X is kept immediately above P. Hence there is no box between X and P.
 85. Ans. C.
 Boxes: P, Q, R, S, T, U, V, W and X
 1) There are 5 boxes between box P and box R.
 2) Box T is kept immediately above R.

| Case - 1 | Case - 2 |
|----------|----------|
| | T |
| P | R |
| | |
| | |
| | |
| | |
| T | |
| R | P |

- 3) 3 boxes are kept between box T and box S.

| Case - 1.1 | Case - 1.2 | Case - 2.1 | Case - 2.2 |
|------------|------------|------------|------------|
| | | T | S |
| P | P | R | |
| S | | | |
| | | S | T |
| | | | R |
| T | T | | |
| R | R | P | |
| | | | |
| | | | |
| | S | | |
| | | | P |

- 4) The number of boxes between P and S is same as the number of boxes between T and Q.
 5) There are less than 13 boxes kept in the stack.

| Case - 1.1 | Case - 2.1 (A) | Case - 2.1 (B) |
|------------|----------------|----------------|
| | Q | |
| | | |
| | | |
| | T | T |
| P | R | R |
| S | | |
| | | Q |
| | S | S |
| Q | | |
| T | | |
| R | P | P |
| | | |
| | | |
| | | |
| | | |

- (Here case - 2.2 gets eliminated as there will be more than 13 box.)
 (Similarly, Case 1.2 gets eliminated as there will be 13 box not less than 13 box.)
 6) Box U is kept below box Q but above P.
 (here case - 1.1 will gets eliminated)
 7) There is only one box kept between U and V.
 (Here case 2.1 (B) will gets eliminated)

| Case - 2.1 (A) |
|----------------|
| Q |
| |
| |
| |
| T |
| R |
| |
| |
| U/V |
| S |
| V/U |
| |
| P |

- 8) Box W is kept somewhere above X.
 9) As many boxes kept between V and S as many between Q and Y.
 (as there is no box kept between V and S therefore there will not be any box between Q and Y.)
 10) Box Z is kept somewhere Above R.
 11) Box Y is kept below Q.

| |
|-----|
| Q |
| Y |
| Z |
| T |
| R |
| W |
| U/V |
| S |
| V/U |
| X |
| P |

There are 11 box in the stack.

86. Ans. D.

Boxes: P, Q, R, S, T, U, V, W and X

1) There are 5 boxes between box P and box R.

2) Box T is kept immediately above R.

| Case - 1 | Case - 2 |
|----------|----------|
| | T |
| P | R |
| | |
| | |
| | |
| | |
| T | |
| R | P |

3) 3 boxes are kept between box T and box S.

| Case - 1.1 | Case - 1.2 | Case - 2.1 | Case - 2.2 |
|------------|------------|------------|------------|
| | | T | S |
| P | P | R | |
| S | | | |
| | | | |
| | | S | T |
| | | | R |
| T | T | | |
| R | R | P | |
| | | | |
| | | | |
| | S | | |
| | | | P |

- 4) The number of boxes between P and S is same as the number of boxes between T and Q.
 5) There are less than 13 boxes kept in the stack.

| Case - 1.1 | Case - 2.1 (A) | Case - 2.1 (B) |
|------------|----------------|----------------|
| | Q | |
| | | |
| | | |
| | T | T |
| P | R | R |
| S | | |
| | | Q |
| | S | S |
| Q | | |
| T | | |
| R | P | P |
| | | |
| | | |
| | | |
| | | |

(Here case - 2.2 gets eliminated as there will be more than 13 box.)

(Similarly, Case 1.2 gets eliminated as there will be 13 box not less than 13 box.)

6) Box U is kept below box Q but above P. (here case - 1.1 will gets eliminated)

7) There is only one box kept between U and V.

(Here case 2.1 (B) will gets eliminated)

| Case - 2.1 (A) |
|----------------|
| Q |
| |
| |
| T |
| R |
| |
| U/V |
| S |
| V/U |
| |
| P |

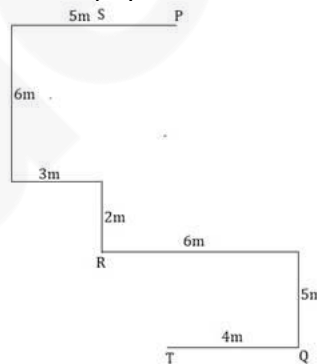
- 8) Box W is kept somewhere above X.
 9) As many boxes kept between V and S as many between Q and Y.

- (as there is no box kept between V and S therefore there will not be any box between Q and Y.)
 10) Box Z is kept somewhere Above R.
 11) Box Y is kept below Q.

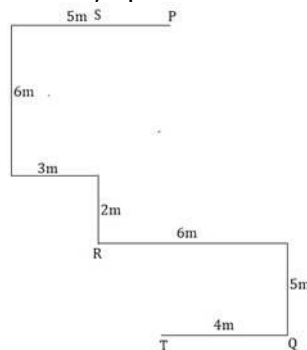
| |
|-----|
| Q |
| Y |
| Z |
| T |
| R |
| W |
| U/V |
| S |
| V/U |
| X |
| P |

- I. Two boxes between T and Q. \Rightarrow True
 II. S is kept below W. \Rightarrow True
 III. U is kept immediately above P. \Rightarrow False
 Hence both I and II is true.

87. Ans. C.
 $6m + 2m + 5m = 13m$
 Hence, option C.



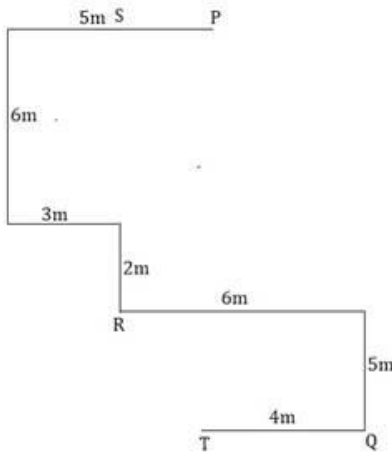
88. Ans. C.
 Point R is south-west of point P.
 Hence, option C.



89. Ans. A.

Point S is west of point P.

Hence, option A.



90. Ans. A.

(A) is a conclusion. (D) goes against the grain of the passage. (B) applies only to rich students. But (C) is the assumption that underlines the logical reasoning in the passage.

91. Ans. A.

Only course of action I follows. Because the ratio of 1:17,68 is so screwed up that immediate steps should be taken to recruit more doctors. Courses of action II and III do not follow. Rolling out incentives to those students who take up medicine would be highly unfair and increasing the number of clinics makes no sense if there are no doctors available. Therefore, option A is the correct answer.

92. Ans. C.

Only III can be inferred. The very name – Reuters Institute digital news reports – and the fact that they published a report on the use of social media for news suggests that their reports reveal various insights about digital news consumption. Inferences I and II cannot be deduced because both of them contain a lot of extraneous information that cannot be deduced from what is given. Therefore, option C is the correct answer.

93. Ans. D.

The statement mentions that 'majority of victims might have been nuisance to peace loving people. This implies that majority of the

victims are wicked people though some victims are innocent people too. So, both I and II are implicit. Further the statement advocates vehement opposition of wars. So III is implicit.

94. Ans. D. We have to focus our attention on the conclusion at hand and on larger issues "They need not even be in the not to better IT systems, office at all why? Because due people can work from elsewhere, as given in (D).

95. Ans. A. $M \geq G = T \geq B < Q = P < R = S$
From I, $M \geq B$, clearly I is true.

From II, $T < P$, we can't compare T and P so II is not true.

Hence, only I is true.

96. Ans. B. Refer to the first paragraph of the passage. It can be clearly inferred that according to gender neutrality, social roles shouldn't be assigned as per the gender of the person and that the term backs the elimination of gender based distinctions.

97. Ans. C. Refer to the following statement of the passage, "Advocates of post-genderism argue that the presence of gender roles, social stratification, and cogno-physical disparities and differences are generally to the detriment of individuals and society."

'Discrepancies' means differences/disparities. Inimical means destructive/ harmful. Since the statement says that the post-genderists argue about it, it is clear that it is their cause of concern.

98. Ans. A. Refer to the following statement of the fourth para, 'Gender-neutral language, gender-inclusive language, inclusive language or gender neutrality is a form of linguistic prescriptivism that aims to eliminate (or neutralize) reference to gender in terms that describe people. This can involve discouragement of the use of gender-specific job titles

' and the following line of the sixth para, "Gender-neutral language" should not be confused with "genderless language", which refers to a language that does not have grammatical gender.'

The former statements validate option A and nullify option B. The latter statement nullifies option C.

99. Ans. B.

Refer to the third paragraph of the passage. It can be inferred that the main reason for it to be considered a controversial topic is because of the increased number of individuals who identify as transgender, intersex, third sex etc. and that the people are not in a comfortable position to overtly have a discussion over the same.

100. Ans. C.

Refer to the following statement of the passage, "Given the radical potential for advanced assistive reproductive options, postgenderists believe that sex for reproductive purposes will either become obsolete, or that all post-gendered humans will have the ability, if they so choose, to both carry a pregnancy to term and father a child." The correct answer is option C.

Option A is nowhere mentioned in the passage.

Option B is an incomplete context. Option D is illogical and talks about something that is beyond the scope of the passage.

101. Ans. A.

Dispute = conflict, argument
Squabble = a noisy quarrel about something trivial.

Apostle = a vigorous and pioneering advocate or supporter of a particular policy, idea, or cause.

Concordance = agreement or consistency.

Causatum = effect

Imprint = make an impression or mark on.

Hence, option A is the correct answer.

102. Ans. C.

Perspective = a view or prospect.

Dissension = disagreement that leads to discord.

Condemnation = the expression of very strong disapproval; censure.

Prospect = a view or perspective

Exponent = a person who supports an idea or theory and tries to persuade people of its truth or benefits.

Sympathy = feelings of pity and sorrow for someone else's misfortune.

Hence, option C is the correct answer.

103. Ans. D.

Transcend = surpass (a person or achievement).

Consonance = agreement or compatibility between opinions or actions.

Initiate = Bolster = support or strengthen

Outstrip = move faster than and overtake (someone else).

Urge = try earnestly or persistently to persuade (someone) to do something.

Hence, option D is the correct answer.

104. Ans. E.

Reinforce = strengthen or support (an object or substance), especially with additional material.

Reciprocity = the practice of exchanging things with others for mutual benefit, especially privileges granted by one country or organization to another.

Concord = agreement or harmony between people or groups.

Culmination = the highest or climactic point of something, especially as attained after a long time.

Tout = attempt to persuade people of the merits of.

Undermine = lessen the effectiveness, power, or ability of, especially gradually or insidiously.

Hence, option E is the correct answer.

105. Ans. C.

Stratification = the arrangement or classification of something into different groups.

Denouement = the outcome of a situation, when something is decided or made clear.

Outset = the start or beginning of something.

Unison = harmony

Cessation = the fact or process of ending or being brought to an end.

Repercussion = an unintended consequence of an event or action, especially an unwelcome one.

Hence, option C is the correct answer.

106. Ans. B.

"Symptom" refers to the physical or mental feature which is regarded as indicating a condition of disease, particularly such a feature that is apparent to the patient. "Malleable" means easily influenced; pliable. "Symptoms" fits in the first blank as "symptoms" could emerge or start being noticeable. The characteristic of "malleability" allows ease of working on the brain. Thus, option B is the correct answer.

107. Ans. C.

"Detection" refers to the action or process of identifying the presence of something concealed and "subtle" **is something** so delicate or precise as to be difficult to analyze or describe. Hence, these are the most appropriate words.

108. Ans. C.

The sentence is about the decision taken by central bank's monetary policy committee that they will give time to the committee decision to see the transitory efforts of demonetization on inflation and the output. The first word should mean that the committee has decided. The second word should be a pronoun for the committee. Being committee a collective noun, pronoun it will be used. The singularity and plurality of the 'it' depends on singularity or plurality of verb. Also, reflexive form of a noun should be used. Therefore, option C is apt. Opted means making a choice from a range of possibilities. And for the committee, reflexive form of 'it' should be used.

109. Ans. C.

Among all the options, "pace" meaningfully follows the word "grow". "Acknowledging" means to accept, admit, or recognize something. The sentence talks about the acceptance of government of demonetization's impact on consumer spending.

110. Ans. E.

The sentence is about a stereotypical fact that the finance minister has limited resources, thus, he won't be able to provide more investment to different projects or sub-department but for the first time, he has an extra budget now. The first blank must have a word which means to be controlled, or compel

to follow a particular course of action. The second blank must be in accordance with won't and plural form of give. Therefore, Option E is apt. "Constrained" means compelled to follow a particular course of action.

111. Ans. E.

The second blank is followed by the phrase "the end of 2016". Since this is not a fixed time-frame, "at" cannot fit in the blank. This eliminates option D. "Approaching", "near" and "of" would be grammatically incorrect in the blank. This eliminates option A, B, and C. This leaves us with option E, which is the correct answer.

112. Ans. A.

"Revenue" refers to income, especially when of an organization and of a substantial nature and "demographic" means a statistic characterizing human populations. Hence, these are the most appropriate words.

113. Ans. D.

The sentence is about the efficiency of amazon. The first blank must have a word that shows possibility in a positive tone. The second blank must have a word that shows easiness to use the portal. Therefore, option D is apt. 'Perhaps' is used to express uncertainty or possibility. 'Simplify' refers to make something simpler or easier to do or understand.

114. Ans. D.

The latter part of the sentence talks about some action that has been made possible by internet which helps people to speak out their minds. Logically, the only word that fits in the blank is anonymity which is the condition of being anonymous i.e. (of a person) not identified by name; of unknown name. Folio refers to an individual leaf of paper. Epoch refers to a particular period of time in history or in a person's life. Apprehensions mean doubt. Conviction means a firmly held belief. Rapidness refers to the fastness of something. Nuances refer to a slight difference in meaning, expression, or sound. Exploring the options via their meaning, the first blank can be filled in by the word nuances.

Thus, D is the correct option.

115. Ans. C.

It can be concluded from the statement that the portrayal of women in video games is inappropriate and unreasonable. Therefore, 'absurdity' best fits the first blank. 'Exhibiting' fits the second blank as it means displaying. So option 3 is the correct answer.

Felony – crime

Enticing- tempting

Transgression- crime

Tantalizing- teasing

Malfeasance- wrongdoing

Enthralling- fascinating

116. Ans. D.

Refer to the last question of the series.

117. Ans. A.

Refer to the last question of the series.

118. Ans. A.

Refer to the last question of the series.

119. Ans. B.

Refer to the last question of the series.

120. Ans. C.

Correct Sequence: FECABD

The central theme of all the passage is the threat of rising sea level in Kolkata and Mumbai as reported by a US-based organization. hence sentence F is the opening sentence of this series.

Sentence E and C form a pair since both talk about the steps taken to prohibit and mitigate the situation of waterlogging. In this case, the statement of the mayor should be followed by the steps taken by the civil body. The mayor is a part of the civic body.

Sentence A and B form a pair as both of them talk about the reasons that lead to waterlogging in Kolkata. B will come after A because of the use of the word 'more' in it, adding to the poor conditions with respect to waterlogging.

Placing sentences AB before EC makes the structure not very convincing on grammatical and logical grounds. Thus, EC should be followed by AB.

Statement D stands independently as it talks about a redeeming factor for Kolkata in light of the existence of wetlands in the eastern side, and should come last in the series. It has no direct linkage to any of the other

statements with respect to the reasons for waterlogging or the steps taken to control them.

121. Ans. E.

The above sentence is grammatically correct.

122. Ans. A.

The error lies in the incorrect usage of a pronoun. Instead of "this", 'these' should be used; 'this' is used to describe a singular countable noun and "these" is used with plural countable nouns. A non-countable noun has no plural form. In the above sentence, "philosophers" is plural, and 'these' is the pronoun that should be used. Hence, option A is correct.

123. Ans. D.

The error lies with the incorrect usage of a pronoun. 'Whom' is the object of a verb (i.e. the one being acted upon). The difference between 'who' and 'whom' is similar to that between 'he' and 'him'. 'He' is the subject of the verb, and 'him' is an object. Similarly, 'who' is the subjective pronoun and the sentence demands the subjective pronoun and not objective pronoun.

Hence, D is correct.

124. Ans. B.

The error lies in the incorrect usage of the pronoun. The words 'there' and 'their' are often confused and misused because they are homophones i.e., they sound alike. 'There' refers to a place; while "their" means belonging to, or associated with, a group of people. The sentence demands a possessive known as it shows belonging; so, "there" should be used here. Hence, option B is correct.

125. Ans. D.

The error lies in the incorrect usage of the tense in part D. "Has" indicate singular subject" and "have" indicates plural subjects. Since we have two subjects joined by the conjunction "and", the plural verb must be used. Thus, "has been" should be replaced by "have been" to make the sentence correct.

126. Ans. C.

The error lies in the incorrect usage of 'which' in the third part of the sentence. Here we need to use the conjunction "that" to state what was unacceptable. "Which" makes the sentence grammatically incorrect.

127. Ans. B.

The error lies in the incorrect usage of a preposition. Instead of 'point for', it should be 'point with' as the sentence reflects the association. The idea here is to provide the point with elegance, which is correct this way and not otherwise.

Hence, option B is correct.

128. Ans. C.

The error lies in the incorrect usage of the verb. "Have been" is a verb used to form the present perfect tense, and when followed by a present participle, such as "running", "walking", "doing" etc., the present perfect continuous tense. "Had been" basically follows similar parameters, but for the past perfect continuous tense instead of present perfect.

In this case, "had" doesn't change depending on the subject, whether it is singular or plural.

Hence, C is correct.

129. Ans. A.

The error lies in the incorrect usage of an adverb. The main difference between these two words is that "however" can stand by itself at the beginning of a sentence, with a comma after it, while "although" can't do this. The words also have slightly different meanings - "although" means "in spite of the fact that", while "however" means "but". The above segment requires the usage of "however" and not "although".

Hence, A is correct.

130. Ans. B.

The error lies in the incorrect usage of the preposition. The preposition "by" is used when the dependent clause starts with a verb, while "with" is used when the dependent clause starts with a noun.

Hence, B is correct.

131. Ans. E.

The sentence is grammatically correct.

Hence, E is correct.

132. Ans. A.

The sentence implies that the concerned persons cleaned their house before their parents came back home.

The phrase '**straighten up**' means 'to make (something) organized or tidy'. Therefore, **option A** is the correct answer.

133. Ans. C.

The phrase 'require considerably' is incorrect. We use base form of the verb after modals. Therefore, 'required' must be replaced with '**require**'.

Also, an adjective is required to modify the gerund form of the word 'maneuvering'. Hence, 'considerably' must be replaced by '**considerable**' to form a grammatically correct sentence.

Hence, **option C** is the correct answer.

134. Ans. E.

The sentence is both contextually and grammatically correct, hence, no correction is required.

Therefore, **option E** is the correct answer.

135. Ans. B.

The sentence is an example of **third conditional sentences**.

Third conditional sentences are used to explain that present circumstances would be different if something different had happened in the past.

When using the third conditional, we use the past perfect (i.e., had + past participle) in the if-clause. The modal auxiliary (would, could, should, etc.) + have + past participle in the main clause expresses the theoretical situation that could have happened.

Therefore, 'have seen' must be replaced by '**had seen**' to form a grammatically correct sentence.

Hence, **option B** is the correct answer.

136. Ans. D.

The sentence implies that the person's plan to trek through South America failed when he got sick.

If something that has been planned or agreed falls through, it does not happen i.e. the phrase 'fall through' means '**to fail**'.

Hence, 'fell upon' must be replaced with '**fell through**' to form a grammatically correct sentence.

Therefore, **option D** is the correct answer.

137. Ans. A.

The given sentence violates parallelism. Parallel structure is the repetition of a chosen grammatical form within a sentence. When we compare items in a list, we use parallel structure.

In the given sentence, adjectives are used to modify 'public schools' while 'funded by the government' is a phrasal verb. It needs to be replaced by some adjective. '**Government-funded**' is the appropriate adjective to maintain the parallelism.

Hence, **option A** is the correct answer.

138. Ans. C.

We use past perfect tense to talk about something that happened before another action in the past, which is usually expressed by the simple past.

In the given sentence, the subjects were not able to stay overnight at the hotel because they had not made reservations before.

Therefore, the phrase in the bold should be in the past perfect tense.

Hence, **option C** is the correct answer.

139. Ans. A.

The given sentence talks about the activities happened in the past. The emboldened phrase violates the parallelism of the sentence. The phrase should be in past continuous tense.

When we use the past continuous with two actions in the same sentence, it expresses the idea that both actions were happening at the same time. The actions are parallel.

Therefore, the phrase should be '**was not paying attention**'.

Hence, **option A** is the correct answer.

140. Ans. E.

The given sentence is both grammatically and contextually correct. "Unpardonably" is an adverb which correctly modifies the verb "neglected".

Hence, **option E** is the correct answer.

141. Ans. E.

According to the second paragraph of the passage, "smart city" is a designation given to a city that incorporates information and communication technologies (ICT) to enhance the quality and performance of urban services such as energy, transportation and utilities in order to reduce resource consumption, wastage and overall costs.

In the passage, there is no mention of what 'smart' means in Smart Cities. Option B makes sense, but it is not mentioned in the passage. Therefore, option E is the apt answer.

142. Ans. D.

Option A: The report was on the Smart Cities Mission, not on slum-free or cities without slum. The statement can't be deciphered from the passage.

Option B: The passage states that 'the Housing and Land Rights Network (HRLN) on the Smart Cities Mission poses the question: "Smart for whom?.." Retort means to say something in answer to a remark, typically in a sharp, angry, or witty manner. So, the statement is the opposite of what mentioned in the passage.

Option C: One cannot say or decipher, 'the Smart Cities Mission seeks to cover nearly 10 crore population in 100 cities,' from the paragraph.

Option D: It can be deciphered from the first and the last paragraphs.

Option E: The correct sentence is '...At least six homes are destroyed and 30 people forcibly evicted each hour in India as authorities modernise cities and build highways.'

Therefore, option D is the apt answer.

143. Ans. B.

We can decipher all the statements from the third paragraph except statement B. The paragraph states '..It seems difficult for the planners to realise that since the beginning of the last century, despite the spectacular growth of urban populations, the poorest half of the world has received just 1% of the total increase in global wealth.' It might be conveying the sense that global wealth inequality has been high and rising. But 'despite the spectacular growth of urban populations, global wealth inequality has certainly been high and rising' makes no sense. Therefore, option B is the apt answer.

144. Ans. E.

Option I: From the second paragraph, one can decipher that focus of the mission is economic growth. But the first paragraph states that 'without taking into account the paucity of formal housing that cities offer,' it is exercising forced evictions and demolitions of homes, slums in particular. How can this contribute to the economic growth? So, one

can say that the smart city proposal is perpetuating the very issue that they aim to solve.

Options II, III and IV can be deciphered from the fourth paragraph, thereby all options can be used.

Therefore, option E is the apt answer.

145. Ans. B.

Option I: The passage states ‘..The three main mechanisms have been adopted to produce space—infrastructure and mega-projects, redevelopment, and creating exception regimes for “slums” are applicable to the implementation of the Mission.’ This means that the Smart Cities Mission uses these

mechanisms as their mechanisms for the implementation of the mission. Hence, option I can be inferred.

Option II: From the fourth paragraph, one can clearly state that the statement is clearly mentioned in the passage, not inferred from the passage.

Option III: The passage states, ‘..Over the last two decades, the state-led production of space, as part of worlding cities, has introduced new structural violence into the lives of poor groups.’ ‘Worlding cities’ refers to urbanisation. Hence, option III can be inferred.

Therefore, option B is the apt answer.