

SNAP 2009 - SET L - Solution Key

SECTION - 1 (Quantitative & Data Interpretation & Data Sufficiency)

1. The sum of numbers can be 15 in the following three ways.

Case (i):

$$15 = 3 + 6 + 6$$

The first, second and third throws can be (3, 6, 6), (6, 3, 6) and (6, 6, 3) respectively.

∴ Total number of ways in which 3, 6 and 6 can be obtained is 3.

Case (ii):

$$15 = 4 + 5 + 6$$

The first, second and third throws can be either of 4, 5 and 6.

∴ Total number of ways in which 4, 5 and 6 can be obtained is 6.

Case (iii):

$$15 = 5 + 5 + 5$$

The first, second and third throws can be 5, 5 and 5.

∴ Total number of ways in which 5, 5 and 5 can be obtained is 1.

∴ The total number of ways in which the sum of throws can be 15 is $3 + 6 + 1 = 10$

The total number of ways in which the first roll will be a 4 is 2

$$\therefore \text{Required chance} = \frac{2}{10} = \frac{1}{5}$$

Hence, option 2.

2. Let b and s be the speed of the boat and stream respectively.

As per the given conditions,

$$\frac{30}{b+s} = 2 \quad \dots (i)$$

$$\text{and } \frac{30}{b-s} = 6 \quad \dots (ii)$$

Dividing (i) and (ii),

$$\frac{b-s}{b+s} = \frac{1}{3}$$

$$\therefore b = 25$$

Substituting in (i)

$$\frac{30}{2s-s} = 2$$

$$\therefore s = 5$$

$$\therefore b = 10 \text{ kmph}$$

The correct answer is not there in the options.

3. A number divisible by 4 formed using the digits 1, 2, 3, 4 and 5 has to have the last two digits 12 or 24 or 32 or 52.

In each of these cases, the five digit number can be formed using the remaining 3 digits in $3 \times 2 \times 1 = 6$ ways.

\therefore A number divisible by 4 can be formed in $6 \times 4 = 24$ ways.

Total numbers that can be formed using the digits 1, 2, 3, 4 and 5 without repetitions = $5! = 120$

$$\therefore \text{Required probability} = \frac{24}{120} = \frac{1}{5}$$

Hence, option 1.

4. Let $a, b, c, d, e,$ and f be six numbers, such that

$$a = e + m$$

$$b = e - k$$

$$c = e + l$$

$$d = e - j$$

$$f = e + p$$

Then, the sum of deviations of $a, b, c, d, e,$ and f from e is $(m - k + l - j + p)$

The means of $a, b, c, d, e,$ and f is given by

$$\begin{aligned} \frac{a + b + c + d + e + f}{6} &= \frac{e + m + e - k + e - l + e - j + e + p}{6} \\ &= \frac{6e + (m - k - l - j + p)}{6} \end{aligned}$$

$$= \frac{6e + \text{Sum of deviations}}{6}$$

Using the similar logic, the required mean

$$= \frac{20 \times 23 + 70}{20} = 26.5$$

Hence, option 4.

5. Let x gms of gold be added to the alloy to increase the percentage of gold in it to 90%.

$$\therefore \frac{80\% \text{ of } 50 + x}{50 + x} = \frac{90}{100}$$

$$\therefore \frac{40 + x}{50 + x} = \frac{90}{100}$$

$$\therefore x = 50 \text{ gms}$$

Hence, option 1.

6. Let the incomes be $7x$ and $3x$ and let the expenses be $5y$ and $2y$.

$$\therefore 7x - 5y = 300 \quad \dots \text{ (i)}$$

$$\text{and } 3x - 2y = 300 \quad \dots \text{ (ii)}$$

Solving (i) and (ii) simultaneously, we get

$$\therefore \text{A's income} = 7x = 7 \times 900 = \text{Rs. } 6300$$

Hence, option 3.

7. Assume the family consumes 1 kg usually.

To keep expenditure at Rs. 24, its new consumption should

$$\text{be } \frac{24}{27} = \frac{8}{9} \text{ kg}$$

$$\begin{aligned} \therefore \text{Percentage decrease in consumption} &= \frac{\left(1 - \frac{8}{9}\right)}{1} \times 100 \\ &= 11.1\% \end{aligned}$$

Hence, option 4.

8. From a certain station, there will be a ticket for each of the other 9 stations and there are 10 stations on the railway line.

$$\therefore \text{The number of different journey tickets} = 9 \times 10 = 90$$

Hence, option 2.

9. Circumference of a circle = $2\pi r$, where r is the radius.

$$\text{Circumference} \propto r$$

As the circumference increases by 5%, the radius also increases by 5%

$$\therefore \text{New radius} = 1.05r$$

$$\therefore \text{As area} \propto (\text{radius})^2$$

$$\therefore \text{New area} = (1.05)^2 \times \text{old area}$$

$$= 1.1025 \times \text{old area}$$

$$\therefore \text{Percentage increase in area} = 10.25\%$$

Hence, option 2.

10. The three vowels in ABACUS are A, A and U. These three can be arranged among themselves in $3!/2! = 3$ ways.

As the three vowels are to appear together, we consider them as one entity. Thus we have four letters; (AAU), B, C and S to be arranged.

This can be done in $4!$ ways.

$$\therefore \text{Required number of ways} = \frac{4! \times 3!}{2}$$

Hence, option 4.

11.

$$\text{We can see that } \frac{8000}{6000} = \frac{700}{525} = \frac{4}{3}$$

\therefore The time that 525 requires to grow to 700 will be the same as the time that 6000 requires to grow to 8000.

$$\therefore \text{Required number of years} = 4$$

Hence, option 3.

12. At the start of the game J and B together had 4 times the money that T had.

$$\text{Let the total money be } m. \text{ Then } j + b + t = 4t + t = 5t = m$$

\therefore The total money is divisible by 5.

Similarly from the other three statements in the data, we find that the total money is divisible by 4 and 3 as well.

\therefore The total money is divisible by $4 \times 3 \times 5 = 60$

Let the total money be $60y$

At the start of the game,

$$j + b = 4t$$

$$\therefore j + b + t = 5t = 60y$$

$$\therefore t = 12y$$

$$\therefore j + b = 48y \quad \dots(i)$$

Also,

$$t + b = 3j$$

$$\therefore 4j = 60y$$

$$\therefore j = 15y$$

Substituting in (i),

$$15y + b = 48y$$

$$\therefore b = 33y$$

\therefore The amounts with J, B and T at the start were $15y$, $33y$ and $12y$ respectively.

Now, at the end of the game,

$$j + b = 3t$$

$$\therefore 4t = 60y$$

$$\therefore t = 15y$$

$$\therefore j + b = 45y \quad \dots(ii)$$

Also, $t + b = 2j$

$$\therefore 3j = 60y$$

$$\therefore j = 20y$$

Substituting in (ii), we get

$$b = 25y$$

\therefore The amounts with J, B and T at the end were $20y$, $25y$ and $15y$ respectively.

\therefore The fraction of total money that T had at the beginning was

$$\frac{12y}{60y} = \frac{1}{5}$$

Hence, option 4.

$$13. J \text{ won } 20y - 15y = 5y$$

$$\therefore \text{Required fraction} = \frac{5y}{60} = \frac{1}{12}$$

Hence, option 1.

14. As B lost Rs. 200,

$$\therefore 33y - 25y = 200$$

$$\therefore 8y = 200$$

$$\therefore y = 25$$

$$\therefore 33y = 825$$

\therefore B started with Rs. 825

Hence, option 3.

15. Here a and b are negative and c is positive.

Let $a = -4$, $b = -3$ and $c = 2$

$$\text{I) } a - b = -4 + 3 = -1$$

$$\text{and } a - c = -4 - 2 = -6$$

So, $a - b > a - c$

So I is not true.

II) Taking the same values of a , b and c ,

$$\text{we have } a/c = -4/2 = -2$$

$$b/c = -3/2 = -1.5$$

Since $-2 < -1.5$, $a/c < b/c$

So II is true.

III) For any value of b and c ,

$1/b < 1/c$ since b is negative and c is positive.

So III is true.

So statements II and III are true.

Hence, option 4.

16. Let the length of the side of the original square be x .

Then, the length of the diagonal = $\sqrt{x^2 + x^2} = 4\sqrt{2}$

$$\therefore 2x^2 = 32$$

$$\therefore x^2 = 16$$

$$\therefore x = 4$$

Now, the area of the other square is twice that of the first square.

So, the area of the second square = $2x^2 = 32$

If the length of the second square is y , then $y^2 = 32$

\therefore Length of the diagonal of this square = $\sqrt{2y^2} = \sqrt{64} = 8$ cm

Hence, option 1.

17. Let the length, breadth and height of the rectangular box be l , b and h respectively. Then the maximum length of the pencil that can be accommodated in the box will be equal to the length of its greatest diagonal, which is the body diagonal.

This length is given as $\sqrt{l^2 + b^2 + h^2}$

Dimensions of the box are given as $8 \times 6 \times 2$.

So the maximum length of the pencil that can be kept in the box

$$= \sqrt{8^2 + 6^2 + 2^2} = \sqrt{104} = 2\sqrt{26} \text{ cm}$$

Hence, option 3.

18. Total readership of X is 8.7 lakhs.

$$\therefore X + 2.5 + 0.5 + 1 = 8.7$$

$$\therefore X = 4.7$$

Also, total readership of Y is 9.1 lakhs

$$\therefore 2.5 + 0.5 + 1.5 + Y = 9.1$$

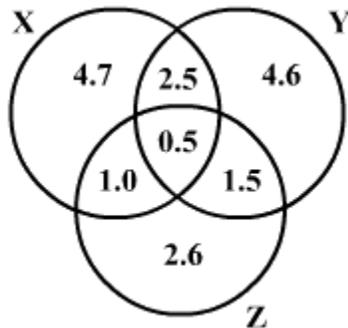
$$\therefore Y = 4.6$$

Also, total readership of Z is 5.6 lakhs

$$\therefore Z + 1 + 0.5 + 1.5 = 5.6$$

$$\therefore Z = 2.6$$

Therefore, we have



$$\therefore \text{Number of people who read at least one paper} = 4.7 + 4.6 + 2.6 + 1 + 1.5 + 0.5 + 2.5 = 17.4$$

Hence, option 3.

19. From the solution to the previous question,

$$\begin{aligned} \text{Number of people who read only one newspaper} &= 4.6 + 4.7 + 2.6 \\ &= 11.9 \end{aligned}$$

Hence, option 2.

20. Percentage of Sonali's salary invested in insurance policies = 15%

Percentage of salary spent in shopping and household expenses = 55%

$$\begin{aligned} \therefore \text{Percentage of salary saved} &= 100 - (15 + 55) \\ &= 30\% \end{aligned}$$

Let Sonali's monthly salary be x

$$\therefore 30\% \text{ of } x = 12750$$

$$x = \frac{12750 \times 100}{30}$$

Rs. 42,500

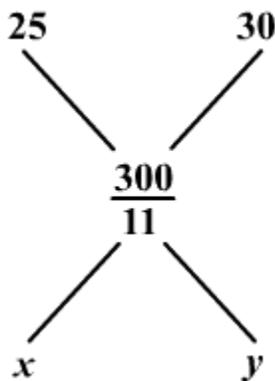
Hence, option 1.

21. There are two varieties of tea, one worth Rs. 25 per kg and the other worth Rs. 30 per kg. Now, by selling the blended variety at Rs. 30 Kg, profit should be 10%

So, the cost price of the blended tea should be

$$\frac{30}{1.1} = \text{Rs. } \frac{300}{11} \text{ kg}$$

This problem can be depicted through alligation as below



We get $\frac{x}{y} = \frac{30}{25}$

Amount of tea of Rs. 30 kg to be used is 30 kg. If the amount of tea worth Rs. 25 kg is a

$$\therefore \frac{30}{25} = \frac{a}{30}$$

$$\therefore a = \frac{30 \times 30}{25} = 36 \text{ kgs}$$

Hence, option 1.

22. Of the total 80 students, let there be b boys and g girls.

$$\therefore b + g = 80 \quad \dots (i)$$

Total pass percentage was 75%.

$$\text{So number of students who passed} = 0.75 \times 80 = 60$$

Now, it is given that 85% of girls and 70% of boys passed.

$$\therefore 0.7b + 0.85g = 60 \quad \dots \text{(ii)}$$

Solving (i) and (ii), we get

$$g = 26.67 \text{ and } b = 53.33$$

None of the options has the correct answer.

23. 300 gms solution has 40% salt in it.

$$\text{So, the amount of salt in it} = \frac{40 \times 300}{100} = 120 \text{ gms}$$

For the salt percentage to be 50%,

$$\frac{120 + x}{300 + x} = \frac{1}{2}$$

$$\therefore 240 + 2x = 300 + x$$

$$\therefore x = 60 \text{ gms}$$

Hence, option 2.

24. Here, each number in the second row is obtained by multiplying the corresponding number of the first row by 8.

$$\therefore \text{The number that should replace the question mark} = 192/8$$

$$= 24$$

Hence, option 4.

25. The rectangle, triangle and the circle each move one step to the left in every subsequent row. Thus, the rightmost figure in the third row is the triangle. We can also see that all the three colours, white, grey and black are present in each row. So the third row should have a black triangle. In the first and second rows, the rectangle is labeled "+", the triangle "C" and the circle "T". Thus the black triangle in row three should also be labeled "C".

Hence, option 2.

26. Using the digits 0, 1, 2, 3, 4 and 5, five digit numbers divisible by 3, can be formed using the following combinations.

Case(i):

1, 2, 3, 4, 5

Total number of numbers formed using these digits = $5! = 120$

Case(ii):

0, 1, 2, 4, 5

Total number of numbers formed using these digits = $4 \times 4 \times 3 \times 2 = 96$

Thus, total numbers = $120 + 96$

$$= 216$$

Hence, option 3.

27.

Since $\frac{2^{\text{th}}}{5}$ of the work is completed in the 25 days, remaining $\frac{3^{\text{th}}}{5}$ of the work is to be completed in 25 days.

Let x men work for 25 days to complete $\frac{3^{\text{th}}}{5}$ of the work.

$$\frac{M_1 D_1 H_1}{W_1} = \frac{M_2 D_2 H_2}{W_2}$$

$$\therefore \frac{25 \times 105 \times 8 \times 5}{2} = \frac{x \times 25 \times 9 \times 5}{3}$$

$$\therefore x = \frac{105 \times 8}{2 \times 3} = 140$$

\therefore Additional men employed = $140 - 105$

$$= 35$$

Hence, option 3.

28. A can build the structure in 8 days.

\therefore Fraction of structure built in a day by A = $1/8$

Similarly, fraction of structure broken by B in a day = $1/3$

Amount of work done by A in 4 days = $4/8 = 1/2$

Now, both A and B work together for 2 days.

So, the fraction of structure built in 2 days

$$= 2 \left(\frac{1}{8} - \frac{1}{3} \right) = \frac{2 \times (-5)}{24} = \frac{-5}{12}$$

Fraction of structure still to be built

$$= \frac{1}{2} + \frac{5}{12} = \frac{11}{12}$$

If A takes x days, to build up the remaining structure, then

$$\frac{x}{8} = \frac{11}{12}$$

$$\therefore x = \frac{22}{3}$$

Hence, option 4.

29. Let the first term and the ratio of the Geometric Progression be a and r respectively.

$$\therefore a + ar = 12$$

$$\therefore a(1 + r) = 12 \quad \dots (i)$$

$$\text{Also, } ar^2 + ar^3 = 48$$

$$\therefore ar^2(1 + r) = 48 \quad \dots(ii)$$

Dividing (ii) by (i),

$$\frac{ar^2(1 + r)}{a(1 + r)} = \frac{48}{12} = 4$$

$$\therefore r^2 = 4$$

$$\therefore r = \pm\sqrt{4} = \pm 2$$

Since the terms of the Geometric Progression are alternately positive and negative, $r = -2$

$$\therefore \text{From (i), } a(1 - 2) = 12$$

$$\therefore a = -12$$

Hence, option 3.

30.

$$\text{Mean of the given numbers} = \frac{a + b + 23}{5}$$

Mean is given as 6.

$$\therefore \frac{a + b + 23}{5} = 6$$

$$\therefore a + b = 30 - 23 = 7$$

So, option 4 can be eliminated.

$$\text{Now, variance} = \frac{1}{5} [(a - 6)^2 + (b - 6)^2 + (5 - 6)^2 + (10 - 6)^2 + (8 - 6)^2]$$

$$\therefore \frac{1}{5} [(a - 6)^2 + (b - 6)^2 + 21] = 6.8$$

$$\therefore (a - 6)^2 + (b - 6)^2 + 21 = 34$$

$$\therefore (a - 6)^2 + (b - 6)^2 = 13$$

Only option 3 fits into the above equation.

Hence, option 3.

31. Value of goods = Rs. 15,000

$$\text{Commission the receives} = 12\frac{1}{2}\%$$

$$\therefore \text{Commission received} = \frac{12.5 \times 15000}{100}$$

$$= 1875$$

Hence, option 1.

$$32. \sqrt{110.25} = 10.5$$

$$\sqrt{0.01} = 0.1$$

$$\sqrt{0.0025} = 0.05$$

$$\sqrt{420.25} = 20.5$$

$$\begin{aligned} &\therefore \sqrt{110.25} \times \sqrt{0.01} \div \sqrt{0.0025} \times \sqrt{420.25} \\ &= 10.5 \times \frac{0.1}{0.05} - 20.5 \end{aligned}$$

$$\begin{aligned} &= 1.05/0.05 - 20.5 \\ &= 21 - 20.5 \\ &= 0.5 \end{aligned}$$

Hence, option 2.

33. The total number of respondents under the age of 31 = 33 + 33 = 66

The number of respondents under the age of 31 who indicated that Blues is their favourite style of music = 2 + 3 = 5

$$\therefore \text{The required percentage} = \frac{5}{66} \times 100 \approx \frac{15}{2} \approx 7.5\%$$

Hence, option 2.

34. There were 33 respondents in all in the 21-30 age group.

There were 12 respondents in this group who preferred Rock music.

\therefore There were 33 - 12 = 21 students who favoured a style other than Rock music.

$$\therefore \text{The required percentage} = \frac{21}{33} \times 100 \approx 64\%$$

Hence, option 1.

35. The total number of respondents = 33 + 33 + 68 = 134

The number of respondents who indicated that Jazz is their favourite style of music = 1 + 4 + 11 = 16

$$\therefore \text{The required percentage} = \frac{16}{134} \times 100 \approx 12\%$$

Hence, option 4.

36. The total number of students in the Arts faculty = 1049

The number of non-US students in the Arts faculty = 79 + 21 + 6 + 2 + 4 = 112

$$\therefore \text{The required percentage} = \frac{112}{1049} \times 100 \approx 10.67\%.$$

The closest option is 11%.

Hence, option 4.

37. Let the number of total students in the University be x .

There are 1049 students in the Arts faculty, which represents 23% of the total students.

$$\therefore 1049 = 0.23x$$

The number of students in the Engineering faculty is 9% of the total.

$$\therefore \text{The total number of Engineering students} = \frac{9}{100} \times \frac{1049}{0.23} \approx 410 \text{ students}$$

Hence, option 2.

38. 1049 students in Arts represent 23% of the total students.

Let the total number of students in the University be x .

$$\therefore 1049 = 0.23x$$

$$\therefore x = \frac{1049 \times 100}{23} = 4560$$

\therefore The total number of students is 4560.

Hence, option 2.

39. The Science students are 21% of the total number of students.

6% out of these are Asians.

The total number of students in the University = 4560

$$\therefore \text{The number of Asian students studying Science} = \frac{6}{100} \times \frac{21}{100} \times 4560 \approx 57$$

Hence, option 4.

40. The total number of medical students is 5% of the total students.

$$\therefore \text{The number of medical students} = \frac{5}{100} \times 4560 = 228$$

Out of these, 34 are from Europe.

$$\text{This represents } \frac{34}{228} \times 100 = 14.9\% \approx 15\% \text{ of the faculty.}$$

Hence, option 4.

SECTION - 2 (Analytical & Logical Reasoning)

41. A gives B as many tractors that they already have.
 \therefore Number of tractors with A > Number of tractors with B and C
 Hence, option 2.
42. Option 2 can be eliminated as “many” is not the same as ‘majority’.
 The passage states that “...good basic skills in reading, communication, and mathematics play an important role...” and not reliance on communication skills over basic skills in reading and mathematics. Eliminate option 3.
 The passage states ‘most’ of the fastest growing jobs. Option 4 implies ‘all’ the fastest growing jobs. Eliminate option 4.
 The passage mentions that good basic skills in reading, communication and mathematics are important prerequisites for jobs that do not require a college degree- jobs such as that of a desktop publisher, as mentioned in option 1.
 Hence, the correct answer is option 1.
43. Options 1, 2 and 3 can be concluded from the data given in the passage.
 With the help of binary logic, we arrive at the following to be valid conclusions:
 If X, then Y and If not Y, then not X
 The following conclusions may or may not be valid:
 If Y, then X and If not X, then not Y
 The passage states that “If there are no crop protection products(X) , then crop yield per acre will drop by more than 50% (Y).”
 Option 4 states If crop yield per acre drops by more than 50% (Y), then crop protection products have not been used (X)
 Hence, the conclusion in option 4 may or may not be valid.
 Hence, the correct answer is option 4.
44. This is a case of If X, then Y where X is a sufficient but not a necessary condition for Y to occur.
 If flight 409 is cancelled (X), then the manager cannot arrive on time (Y).
 The other valid conclusion would be Not Y, therefore Not X - The manager can arrive on time, therefore flight 409 is not cancelled.
 There are other two conclusions that may or may not be valid- they may or may not be sufficient conditions:
 If Y, then X - The manager cannot arrive on time, therefore flight 409 is cancelled.
 If not X, then not Y – Flight 409 is not cancelled, therefore the manager can arrive on time.
 Lou’s conclusion is based on Not X, therefore not Y, which may or may not be true- hence, Lou’s argument is fallacious.
 Evelyn states that the manager will not arrive at time- there is no possibility that the manager can arrive on time. But, based on data, if flight 409 is not cancelled (not X), then the manager can arrive on time (not Y) may or may not happen. Hence, Evelyn’s conclusion that the

manager will not arrive on time is unwarranted.

Hence, the correct answer is option 2.

45. The passage assumes that a higher percentage of accident related deaths in planes compared to cars implies cars are safer.

We need an argument that attacks the premise that percentage is the only way to determine safety; or we need an argument that brings in another element that shows cars are not as safe as percentages make them to be .

Options 1, 2 and 4 touch upon other aspects which merely add data to the main statement. If the number of car accidents is several hundred thousand times higher than the number of plane accidents, it nullifies the premise of percentages being the deciding factor as well as presents data that supports that cars are not as safe as they are made out to be vis-avis planes. Hence, the correct answer is option 2.

46. From the figure, it is clear that only Industry B and C contribute to company S.

Hence, option 2.

47. Observe that Industry B processes element 4 and 5.

But elements 4 and 5 are also processed at Industry A and C.

Hence, the proportion of element 4 that gets processed in Industry B is unknown.

Similarly, the proportion of element 5 that gets processed in Industry B is unknown.

∴ The percentage of total production of listed elements processed by Industry B cannot be determined.

Hence, option 4.

48. Industry A processes all the listed elements, i.e. Element A, B, C, D and E.

The total annual production of all these elements is 1,00,000 tons.

Hence, option 3.

49. RB shows the correct analogy with exact antonyms in both the pairs- Ascend : Increase ::

Descend : Decrease.

Hence, the correct answer is option 2.

50. AS introduces 'Western' which does not logically fit in the analogy.

AQ gives the perfect antonymous analogous relationship - Modern : Ancient :: Young : Old.

Hence, the correct answer is option 1.

51. BQ gives the correct relationship- Part : Whole :: Class : School.

Hence, the correct answer is option 2.

52. Summit and Apex are synonyms. The only option which comes close to being a synonym is AQ-Beautiful : Pretty.
Hence, the correct answer is option 1.
53. The code for B is 5, code for E is 7 and so on.
Based on this coding system, the code for FUTURE is 204097.
Hence, option 2.
54. If the month that ends on Wednesday have 31 days, there will be 5 Mondays otherwise will have 4 Mondays. Therefore, cannot be specified.
Hence, option 4.
55. From the first row, $(17 \times 12)/2 = 102$
 \therefore From the second row, $(15 \times 10)/2 = 75$
Hence, option 2.
56. From the first row, $12 \times 14 \times 2 = 336$
 \therefore From the second row, $15 \times 16 \times 2 = 480$
Hence, option 2.
57. From condition (III), B and G are in different boats.
 \therefore If F and B are in one boat, G is in the other boat.
Hence, option 1.
58. From condition (IV), the maximum number of persons in one boat can be four only.
 \therefore There must be at least three people in the complete list of people who must be sitting in either boat.
Hence, option 4.
59. In the first figure there are 4 vertical and 3 horizontal lines.
In the following figures both the vertical and horizontal lines reduce by 1.
 \therefore In the fourth figure there will be only one vertical line.
Hence, option 3.
60. In the first figure there are 3 shaded balls on 3 lines.
In the second figure the shaded balls remain in the same places and the lines are turned in the opposite direction.
In second figure there are 2 shaded balls on two sticks.
 \therefore In the fourth figure the lines are turned in the opposite direction.
Hence, option 3.

61. In the alphabetic order I is second to the right of G and K is second to the right of I, similarly M is second to the right of K.

Therefore, the first alphabet of the next element in the series will be M.

Therefore, we can eliminate option 2.

Now, O is second to the right of M, Q is second to the right of O and similarly S is second to the right of Q.

∴ We can eliminate option 3.

In option 1 and 4 only the last letter is different.

Consider the last letters. A is second to the right Y, C is second to the right of A and similarly E is second to the right of C.

Hence, option 1.

[Note: There is a misprint in the second word. The third letter should be U instead of V.]

62. Mohan spent 30% on landline, 40% on GSM and 30% on Airtel and spent 30 minutes and 100 minutes on STD and landline calls respectively.

This breakup can also be shown in a tabular manner as follows.

Mohan	Airtel	GSM	Landline
STD (minutes)	9	12	9
Local (minutes)	30	40	30

Mohan falls in the category of 50-200 km.

Hence, Mohan's STD cost is $(9 \times 1.5) + (12 \times 1.5) + (9 \times 2) = 13.5 + 18 + 18 = \text{Rs. } 49.5$

His cost of local calls is $(30 \times 1) + (40 \times 1) + (30 \times 2) = \text{Rs. } 130$

Price of plan = Rs. 99

Hence, Mohan's total cost = $99 + 49.5 + 130 = \text{Rs. } 278.5$

Rohan spent 40% on landline, 30% on GSM and 30% on Airtel and spent 18 minutes and 120 minutes on STD and landline calls respectively.

This breakup can also be shown in a tabular manner as follows.

Rohan	Airtel	GSM	Landline
STD (minutes)	5.4	5.4	7.2
Local (minutes)	36	36	48

Rohan falls in the category of 50 – 200 km.

Hence, Rohan's STD cost is $(5.4 \times 1.5) + (5.4 \times 1.5) + (7.2 \times 2) = 8.1 + 8.1 + 14.4 = \text{Rs. } 30.6$

His cost of local calls is $(36 \times 1) + (36 \times 1) + (48 \times 2) = \text{Rs. } 168$

Price of plan = Rs. 99

Hence, Rohan's total cost = $99 + 30.6 + 168 = \text{Rs. } 297.6$

Hence, Rohan spent more.

Hence, option 2.

63. Solve this problem by comparing the charges incurred while sending 38, 40, 60 and 59 local SMSes respectively under the old scheme and the new scheme.

Old Scheme			New Scheme			
Number of SMS	Rate	Total Cost	Monthly Charge	Number of SMS	Rate	Total Cost
38	1.5	57	35	38	0.6	57.8
40	1.5	60	35	40	0.6	59
60	1.5	90	35	60	0.6	71
59	1.5	88.5	35	59	0.6	70.4

Thus, a person sending 38 local SMS per month actually pays 80 paise more.
Hence, option 1.

64. Note that this question actually asks for a plan which is not possible at all.

The other three plans may be possible in some cases.

The fixed price of the plan is Rs. 99.

Hence, the call charges should be exactly Rs. 100 in three out of four cases.

Consider option 1:

30 calls to Airtel on STD (500+ kms) cost the user Rs. 1.5 per call.

Hence, the total STD cost = $30 \times 1.5 = \text{Rs. } 45$.

If the person makes all his local calls to Airtel numbers or to GSM phones, he will be charged Rs. 1 per call.

Hence, his total local call cost = $55 \times 1 = \text{Rs. } 55$

Hence, the total calling cost = $45 + 55 = \text{Rs. } 100$.

Hence, a bill of $99 + 100 = \text{Rs. } 199$ is possible.

Consider option 2:

16 calls to Airtel on STD (15 kms) cost the user Rs. 1.5 per call.

Hence, the total STD cost = $16 \times 1.5 = \text{Rs. } 24$.

If the person makes all his local calls to Airtel numbers or to GSM phones, he will be charged Rs. 1 per call.

Hence, his total local call cost = $76 \times 1 = \text{Rs. } 76$

Hence, the total calling cost = $24 + 76 = \text{Rs. } 100$.

Hence, a bill of $99 + 100 = \text{Rs. } 199$ is possible.

Consider option 3:

10 STD calls (250 kms) each to Airtel, GSM and landline respectively.

Hence the total STD cost = $10 \times (1.5 + 2.5 + 2.5) = \text{Rs. } 65$

He makes 30 local calls in all.

Hence, if the person makes 25 calls to Airtel and 5 call to a landline, he gets charged as Re. 1 and Rs. 2 respectively i.e. $(25 \times 1) + (5 \times 2) = \text{Rs. } 35$

Hence, the total calling cost = $65 + 35 = \text{Rs. } 100$

Hence, a bill of $99 + 100 = \text{Rs. } 199$ is possible.

Consider option 4:

The person makes 8, 4 and 7 calls to Airtel, GSM and landline respectively on STD (500+ kms).

Hence, his total STD cost = $(8 \times 1.5) + (4 \times 3) + (7 \times 3.5) = \text{Rs. } 49.5$

He makes 55 local calls a month.

Even if he makes all the calls to Airtel, he gets charged at Re. 1

Hence, his minimum local call charges are Rs. 55

Hence, his minimum total call charges are $49.5 + 55 = \text{Rs. } 104.5$

Hence, a total of Rs. 199/month cannot be obtained for this breakup.

Hence, option 4.

65. 80% of the ISD bill came from calling the rest of the world.

Hence, 20% of the bill came from the other regions.

The total time spent on ISD calling was 12 minutes.

Since the ISD rates for each region vary, the 12 minutes cannot be proportionately divided based on the bill.

Consequently, it is not possible to find out the calling duration for the other two regions.

Hence, the answer cannot be determined.

Hence, option 4.

66. Total demand = $3000 + 600 + 2500 + 1200 + 3300 = 10600$ units.

Average demand = $\frac{\text{Total demand}}{\text{Number of T. V. companies}} = \frac{10600}{5} = 2120$ units.

Total production = $1500 + 1800 + 1000 + 2700 + 2200 = 9200$ units.

Average production = $\frac{\text{Total production}}{\text{Number of T. V. companies}} = \frac{9200}{5} = 1840$ units.

Difference between the average demand and the average production

= $2120 - 1840$

= 280

Hence, option 3.

67. Production of company D = 2700.

Production of company A = 1500.

$\frac{\text{Production of company D}}{\text{Production of company A}} = \frac{2700}{1500} = 1.8$

i.e. Production of company D is 1.8 times the production of company A.

Hence, option 1.

68. Paper cost is 10% of the total cost.

Angle for sector representing paper cost = $(10/100) \times 360$ degrees = 36 degrees.

Hence, option 2.

69. 2% of the cost is Rs. 2000 for 12500 copies.

\therefore 1% of the cost is Rs. 1000.

Using this information,

The total expenditure = Rs. 1,00,000

\therefore Cost for 1 copy = $(100000/12500) = \text{Rs. } 8.$

S.P for a profit of 5 percent = $8 \times 1.05 = \text{Rs. } 8.40.$

Hence, option 4.

70. 'Tree' is called 'sky'. Hence, logically 'fruit' grows on 'sky'.

Hence, the correct answer is option 4.

SECTION - 3 (General English)

71. The blank requires a nominative possessive pronoun in the first person. Therefore, the correct word is 'mine'.

When the possessive comes before the noun, 'my' is used (e.g. *My* close friend). When the possessive comes after the noun, 'mine' is used (e.g. a close friend of *mine*).

Hence, the correct answer is option 4.

72. Logically, options 1 and 3 can be eliminated, since he would not take care of her 'when' or 'after' she was restored to health. Although 'before' may fit in the context of the sentence, 'till' is the best word to bring out the meaning that he took care of her till she was restored to health.

Hence, the correct answer is option 4.

73. The words 'since then' in the given sentence necessitate the use of the present perfect tense. Therefore, the verb should be 'has changed'.

Hence, the correct answer is option 3.

74. The word 'diarrhoea' may seem to be incorrectly spelt for users of British English; however, it is correctly spelt as 'diarrhea' according to US English.

'Diaper' and 'dichotomy' have been spelt correctly.

The word 'dais', meaning a raised platform usually at the front of a room for the purpose of a lectern or a seat of honour, has been incorrectly spelt as 'dias'.

Hence, the correct answer is option 4.

75. The word "dissipate" has been spelt correctly. The correct spelling of the other words is 'superintendent', 'sieve', and 'allotted'.

Hence, the correct answer is option 4.

76. The correct preposition in the first blank should be "in" since one stays 'in' a city. This eliminates options 1 and 3. In the second blank, the correct preposition is "at", since one stays 'at' an address.

Hence, the correct answer is option 2.

77. "Aural" means 'of or pertaining to the ear or the sense of hearing'.

'Aurally challenged' is a term used to refer to people who are deaf or hearing impaired.

A "euphemism" is a figure of speech involving 'the substitution of a mild, indirect, or vague expression for one thought to be offensive, harsh, or blunt'.

Therefore, the use of the term 'aurally challenged' is a 'euphemism', since it is a mild term substituted for the harsher word 'deaf'.

Hence, the correct answer is option 2.

78. An error could be a mistake, slip or blunder, but not a defect. Therefore, option 1 can be eliminated.

“Blunder” is ‘a gross, stupid, or careless mistake’ and is a higher degree than the others; therefore, option 4 can also be eliminated.

A “fault” is defined as ‘a defect or imperfection’.

Hence, the correct answer is option 2.

79. “Flaunt” means ‘to display conspicuously’. This logically contradicts the sentence, since a man who ‘flaunts’ the rules of ethical conduct would not be considered a beast. This eliminates option 1.

Similarly, a man who ‘ignores’ the rules of ethical conduct would also not be considered a beast. This eliminates option 2.

A beast would be one who ‘breaks’ or ‘flouts’ the rules. “Flout” means ‘to treat with disdain, scorn, or contempt’ and fits the context perfectly.

In the second blank, the word ‘as’ does not fit the sentence grammatically. This eliminates option 3.

Hence the correct answer is option 4.

80. Inverted commas, also known as quotation marks, are used either to enclose the exact words of a speaker, or to denote words as titles or when a special meaning is conferred upon them.

The correct sentence should be: Part of Australia is known to the natives as “The Outback”.

Hence, the correct answer is option 1.

81. Commas are used to mark off words used in addressing people and also before certain coordinative conjunctions.

The correct sentence should be: I know that you want to learn to drive, Rima, but you are too young.

Hence, the correct answer is option 3.

82. “Veracious” means ‘truthful or honest’.

Hence, the correct answer is option 4.

83. “Perturb” means ‘to disturb or disquiet greatly in mind’.

Hence, the correct answer is option 3.

84. The phrase “with a high hand” means ‘in an arrogant or dictatorial manner’.

The words sympathetically, democratically, and generously do not fit in this context.

The word closest in meaning is “oppressively”, which means ‘unjustly harsh or tyrannical’.

Hence, the correct answer is option 2.

85. To “rack one’s brains” means ‘to try very hard to think or to remember something’.
Hence, the correct answer is option 4.
86. The noun phrase “cold feet” refers to ‘a loss of confidence, or a sudden onset of uncertainty, fear or nervousness’. It is in no way related to the literal meaning of the temperature of one’s feet.
Hence, the correct answer is option 3.
87. “To eat one’s words” is an idiom meaning ‘to retract one’s statement, especially with humility’.
The most appropriate meaning from the given options is ‘to take back what you have said’.
Hence, the correct answer is option 2.
88. The first sentence is in the form of a question, “Shouldn’t they have checked your tickets?” expressing the speaker’s opinion that ‘I think they should have checked your tickets’.
The second sentence starts with “I wonder if they should have...” The word ‘wonder’ brings in an element of doubt or speculation.
The third sentence starts with “I want to know if they checked...” This indicates that the speaker does not know whether the tickets were checked or not, but is asking about it. There is no opinion expressed here.
The fourth sentence is a definite opinion that “They should have checked...” This sentence conveys the same idea as expressed in the first sentence.
Hence, the correct answer is option 3.
89. “Magnanimous” means ‘generous’ and “benevolence” means ‘charitableness’. At first glance, none of the options seem to be the exact opposite of the meaning given in the sentence.
“Cruel” means ‘wilfully causing pain to others’; “snobbish” means ‘condescending or overbearing to others’; “tyrannical” means ‘unjustly cruel, harsh, or severe’. Therefore, options 2, 3 and 4 can be eliminated.
Although the common meaning of being “mean” is being ‘nasty or unkind’, when used with reference to money, being mean refers to being ‘stingy or miserly’.
Hence the correct answer is option 1.
90. Biannual has two meanings. Firstly, it means occurring twice a year, which is also referred to as semiannual. Secondly, it also means occurring every two years, which is also called ‘biennial’. Since the word ‘biennial’ is specifically used for an event that occurs every two years or even something that lasts for two years, biannual is more commonly used to refer to something that occurs twice a year.
Hence, the correct answer is option 3.
91. ‘Temporal’, ‘ephemeral’ and ‘transient’ mean ‘lasting a very short time; short-lived; transitory’.
This is the exact opposite of ‘eternal’.
Hence, the correct answer is option 4.

92. 'Intravenous' means 'within a vein'.
Hence, the correct answer is option 3.
93. Sentence 8 has used 'down' as an adjective as it tells something more about the train (noun).
This eliminates options 2, 3 and 4.
Hence, the correct answer is option 1.
94. The third fragment 'as unpredictable as' is used only in reference to the 'weather'. This establishes the 3 - 8 link. This helps eliminate options 3 and 4.
The fourth fragment 'as slippery as' is used only in reference to 'an eel'. This establishes the 4 - 6 link.
This eliminates option 1.
Hence, the correct answer is option 2.
95. The word 'above' in sentence 8 is an adjective as it tells us more about 'information' (noun).
This establishes the 1 - 8 link, eliminating options 2 and 4.
The word 'above' in sentence 5 is a noun. This eliminates option 3.
Hence, the correct answer is option 1.
96. There is an error in fragment 2 of the sentence. The article 'the' has been incorrectly placed.
Hence, the correct answer is option 2.
97. There is no error in this sentence.
Hence, the correct answer is option 4.
98. Option 1 should read, 'whose car'.
Option 2 should read, 'who is'.
Option 3 should read, 'whom'.
Hence, the correct answer is option 4.
99. The word 'him' is the object of the word 'imagine' and 'forgetting his own birthday' is a participial phrase describing 'him'.
If we use 'his forgetting', then the gerund 'forgetting' links to the word 'his'. In this case the whole phrase 'his forgetting his own birthday' becomes the object, which is not appropriate.
Hence, the correct answer is option 2.
100. Sentence 1 is incorrect as it gives the impression that the wedding was held in a newspaper. It has a modifying error.
Sentence 2 has no grammatical errors.
Hence, the correct answer is option 2.

101. Options 1 and 2 are incorrect as two negations make the sentence incorrect. The given sentence requires a positive conclusion.
The sentence also needs to be in the present tense and not the future tense. This eliminates option 3.
Hence, the correct answer is option 4.
102. The logical start of the sentence is fragment 5 as it introduces the subject under consideration – English.
This eliminates options 1, 3 and 4.
Hence, the correct answer is option 2.
103. Option 1 is incorrect as it has a tense error. The words ‘would have’ cannot be repeated twice in a single sentence.
Options 2 and 3 are incorrect as they are both tense errors.
Sentence 4 has no such errors.
Hence, the correct answer is option 4.
104. Option 1 is incorrect because ‘apt’ means ‘inclined, disposed’. People cannot be inclined to be mistaken.
Options 3 and 4 are also incorrect as a person cannot be ‘considered’ to be mistaken or be ‘able’ to be mistaken.
In the given context ‘likely’ fits in the best.
Hence, the correct answer is option 2.
105. When using question tags, if the first part of the sentence has a negation then the question tag would be positive. Here ‘hardly’ signifies negation, hence the tag needs to be positive. This eliminates options 2 and 4.
Option 3 is incorrect as ‘will he’ signifies future while the action is taking place in the present.
Therefore only a question tag in the present tense will fit in correctly.
Hence, the correct answer is option 1.
106. A metaphor is an implied comparison.
A simile is a stated comparison between two fundamentally dissimilar things that have at least one point in common. A simile is usually introduced by ‘like’, ‘as’ or ‘so’.
Apostrophe is a direct address to the dead, to the absent, or to a personified object or idea. This figure of speech is a special form of personification. Although in apostrophe, certain human qualities such as understanding are implied when the direct address is made as if addressing a person present.
An epigram is a statement or any brief saying in prose or poetry, in which there is an apparent contradiction.
Here the sentence provided is a simile as there is a comparison between someone and a peacock.
Hence, the correct answer is option 2.

107. A 'personification' is a figure of speech in which an inanimate object or abstraction is endowed with human qualities or abilities.
An 'exclamation' is a figure of speech in which the exclamatory form is used to draw greater attention to a point than a mere statement. Exclamation is little more than a cry, a sudden expression for a range of emotions such as surprise, pleasure, anger, disgust, or pain.
A 'simile' is a stated comparison between two fundamentally dissimilar things that have at least one point in common. A simile is usually introduced by 'like', 'as' or 'so'.
'Anticlimax' is the opposite of climax, a sudden descent from higher to lower. It is chiefly used for the purpose of satire or ridicule.
Here the sentence provided is a 'personification' as death, an inanimate object, is endowed with the human quality of laying hands.
Hence, the correct answer is option 1.
108. The passage is titled, "A way to deal with Frozen feelings." The passage highlights the effects of shock, violence, fear or pain that every child experiences in the early years. The emotions mentioned in the passage are negative. No positive emotions have been mentioned in the passage. Therefore, we can come to the conclusion that "Frozen feelings" are about negative childhood experiences.
Options 2 and 3 are incorrect as they are an outcome of frozen feelings.
Hence, the correct answer is option 1.
109. A "glitch" is 'a defect or malfunction that occurs in a machine or plan'. The passage mentions, "Our feelings are the cause of this 'glitch' in our learning process." What is this "glitch" in the context of the passage? The passage mentions that "whenever the same kind of emotion crops up later in our life we return to the past for our reference point." This means that there occurs some kind of malfunction or breakdown which interferes with the learning process.
Hence, the correct answer is option 3.
110. Option 1 is incorrect as the passage states "The process of change need not be traumatic".
Option 2 is correct and is mentioned in the following extract from the passage, "We feel childish and we behave childishly."
Hence, the correct answer is option 2.

SECTION - 4 (General Awareness: General Knowledge, Current Affairs, Business Scenario)

111. Dendrochronology is the method of scientific dating based on the analysis of tree-ring growth patterns.
Hence, option 1.
112. Modi Telstra launched the first mobile phone operation in India.
Hence, option 4.
113. The correct answer for this question is not given in the options.
114. The expansion of BIFR, in the context of the Indian Industry is Board for Industrial and Financial Reconstruction.
Hence, option 1.
115. Ekistics is the science of human settlements.
Hence, option 4.
116. Red Herring is a Prospectus in an IPO.
Hence, option 1.
117. Eight O'clock Coffee, a US based coffee marketer, is a group company of Tata.
Hence, option 1.
118. Bio-diesel is extracted from Jatropha.
Hence, option 3.
119. Margaret Court is the woman tennis player who won the maximum number of Grand Slam singles titles in the history of tennis.
Hence, option 4.
120. 'Big Apple' is the nickname of New York city.
Hence, option 2.
121. Infosys was the first Indian company to be listed on NASDAQ.
Hence, option 3.
122. "TARENGA" - a village in Bihar was in the news because of viewing of the solar eclipse.
Hence, option 2.
123. The driver for Formula One's Force India Team is Adrian Sutil.
Hence, option 2.

124. (MDRT) - Million Dollar Round Table consists of Global Association of Life Insurance professionals.
Hence, option 3.
125. Reserve Bank of India declares the “Credit Policy” of India.
Hence, option 2.
126. SEBI is the body which regulates the Stock Exchanges in India.
Hence, option 4.
127. Rafflesia arnoldii holds a world record in the plant world for being the largest bloom.
Hence, option 2.
128. Temujin, a famous historical character of the world was Genghis Khan.
Hence, option 2.
129. *Short selling* in the stock market lingo is selling the shares which you do not own.
Hence, option 1.
130. Mahatma Gandhi was nominated for Nobel Peace prize for the first time in the year 1937 and last time in the year 1948. He was nominated 3 times (1938, 1939 and 1947) in between these two years.
Hence, option 2.
131. Sveriges Riksbank instituted the Nobel Prize in Economics.
Hence, option 4.
132. The first actress of Bollywood to endorse Lux beauty soap was Leela Chitnis.
Hence, option 4.
133. Kumar Shri Ranjitsinhji Vibhaji Jadeja played for Sussex in the league cricket of England.
Hence, option 1.
134. Nagpur is the city which has an office of RBI without being a state capital.
Hence, option 4.
135. The tycoon described in the question is Ratan Tata.
Hence, option 1.
136. Vinegar is the substance which derived its name from old French expression and made from the fermentation of ethanol in a process that yields its key ingredient, ethanoic acid.

Hence, option 3.

137. The name of the Japanese company which literally means “three diamonds” is Mitsubishi.

Hence, option 3.

138. Steve and Mark Waugh were the first twins to play test cricket.

Hence, option 4.

139. U.S.A. has the largest rail network in the world.

Hence, option 3.

140. Svetlana Kuznetsova won the 2009 French open tennis ladies title.

Hence, option 1.

141. Robert Noyce and Jack Kilby invented the microchip.

Hence, option 1.

142. Kazakhstan is the largest landlocked country in the world.

Hence, option 3.

143. Ecuador makes Panama hats.

Hence, option 1.

144. Indira Gandhi was the Prime Minister of India when the 42nd Amendment Bill bringing the changes in the Constitution was passed.

Hence, option 3.

145. Pluto lost its planet status recently.

Hence, option 3.

146. One barrel of oil is approximately equivalent to 160 litres.

Hence, option 4.

147. Five year plans in India are finally approved by the Planning commission.

Hence, option 4.

148. The most spoken language in the Southern Cone of South America which includes Argentina, Chile, Paraguay, Uruguay and Peru is Spanish.

Hence, option 2.

149. Brazil is not a member of the organization of petroleum exporting countries (OPEC).

Hence, option 2.

150. Adam Osborne invented 'computer laptop'. This answer is not mentioned in the options.
Hence, option 4.