

ANSWER KEY - IIFT 2013-15

1	*A	2	C	3	C	4	D	5	*C	6	D	7	C	8	B	9	C	10	D
11	D	12	A	13	C	14	D	15	B	16	C	17	C	18	A	19	A	20	C
21	C	22	A	23	A	24	A	25	A	26	C	27	B	28	A	29	B	30	D
31	D	32	A	33	A	34	D	35	C	36	B	37	C	38	*A	39	B	40	C
41	C	42	B	43	C	44	B	45	C	46	B	47	C	48	A	49	C	50	C
51	C	52	C	53	A	54	A	55	C	56	A	57	A	58	C	59	C	60	D
61	D	62	B	63	B	64	D	65	D	66	D	67	A	68	C	69	C	70	B
71	B	72	D	73	D	74	*A	75	D	76	B	77	D	78	A	79	A	80	C
81	A	82	B	83	D	84	B	85	C	86	A	87	C	88	A	89	C	90	C
91	C	92	D	93	B	94	D	95	C	96	A	97	C	98	B	99	D	100	C
101	A	102	C	103	A	104	A	105	A	106	C	107	B	108	B	109	C	110	A
111	D	112	B	113	A	114	C	115	C	116	B	117	C	118	D	119	B	120	D
121	D	122	A	123	A	124	C	125	C	126	B	127	B	128	D				

SOLUTION IIFT - 2013-15

1. *A Assuming that the pattern from 7 to 12 is similar to the pattern followed from 1 to 6, we can arrive at the following output.

Input: H E I R A R C H I C A L
1 2 3 4 5 6 7 8 9 10 11 12

Interchange	Output
1 and 2	EHIRARCHICAL
3 and 4	EHRIARCHICAL
4 and 5	EHRAIRCHICAL
5 and 6	EHRARICHICAL
7 and 8	EHRARIHCICAL
9 and 10	EHRARIHCCIAL
10 and 11	EHRARIHCCAIL
11 and 12	EHRARIHCCALI

Hence, R appears at 3rd and 5th positions, while C appears at 8th and 9th positions.

2. C The given series consists of three different series:

-1, 0, 1, 0, 2, 4, 1, 6, 9, 2, 12, 16, ...

Series I: -1, 0, 1, 2, ... or -1, -1 + 1, 0 + 1, 1 + 1, ...

Series II: 0, 2, 6, 12, ... or 0, 0 + 2, 2 + 4, 6 + 6, ...

Series III: 1, 4, 9, 16, ... or 1, 1 + 3, 4 + 5, 9 + 7, ...

The next terms of

Series I: 2 + 1 = 3; Series II: 12 + 8 = 20;

Series III: 16 + 9 = 25.

Hence, the missing terms are 3, 20, 25.

3. C *di onot* means *oak* tree

bly onot means *oak* leaf

bly crin means *maple* leaf

From the three statements, we get
onot means oak; *bly* means leaf; *crin* means maple;
di means tree.

Also, the code consists of two codes such that the first code corresponds to the second word and the second code corresponds to the first word.

Hence, a possible code for 'maple syrup' is *patricrin*.

4. D From the given information, the three persons can be arranged in descending order of their ages as

Bhanu > Gita > Mita

Hence, of the three, Mita is the youngest, which is option (D).

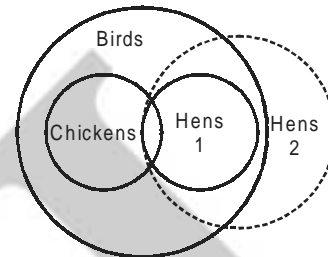
5. *C From statement I, we get Siya > Priya > Tiya ... (i)
From statement II, we get Siya > Riya > Priya ... (ii)
From statement III, we get Riya > Diya < Tiya ... (iii)
Combining (i), (ii) and (iii), we get
Siya > Riya > Priya > Tiya > Diya.

* Note: The question asks for the correct ascending order of ages which is

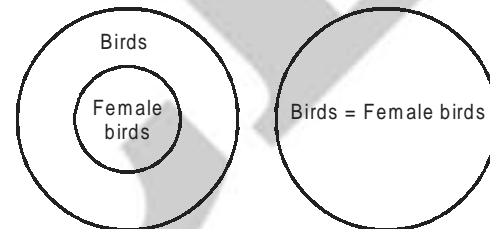
Diya - Tiya - Priya - Riya - Siya, which matches none of the given options.

Option (C) states the descending order correctly and hence, should be the correct option.

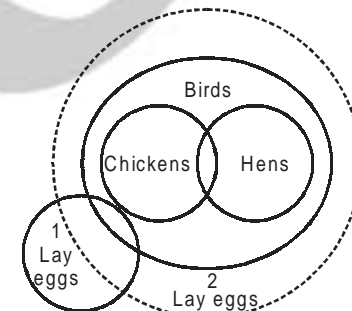
6. D



The set 'female birds' will fall under the set 'birds'. This implies that 'female birds' is a subset of 'birds'. So, the possible cases are as follows:

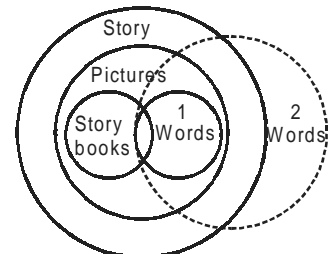


Hence,



Thus, option (D) is correct.

7. C



Only statement III follows from the given set of statements. Hence, option (C) is correct.

8. B The pattern followed in the given pair is:
 $I(9) + 3 = L(12)$
 $Q(17) - 3 = N(14)$
 $S(19) + 3 = V(22)$
 Similarly,
 $J(10) + 3 = M(13)$
 $R(18) - 3 = O(15)$
 $M(13) + 3 = P(16)$
 Hence, required term is MOP.

For questions 9 and 10:

9. C In the week J, K, L are three actors who will appear. This implies N will not appear that week. Also, since J is working, it implies M must appear. These conditions are satisfied in option (C) only.
10. D Since M works every other week, so M will not appear in the next week. Also, K will not appear as N is to appear next week. J will not appear as M cannot appear next week. Therefore, only L may appear other than N and O.

For questions 11 and 12:

The given information can be shown as:

Seat No.	1	2	3	4	5
Speaker	Jaya	Hema	Kumar	Gaj	Lalit
	Explorer	Writer	Moderator	Attorney	Pilot

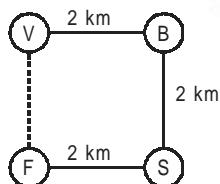
11. D

12. A

13. C **Input:** 64 326 187 87 118 432 219 348
Step I: 64 432 326 187 87 118 219 348
Step II: 64 432 87 326 187 118 219 348
Step III: 64 432 87 348 326 187 118 219
Step IV: 64 432 87 348 118 326 187 219

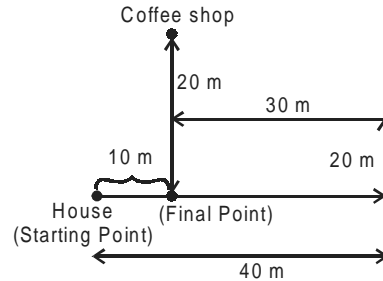
14. D **Input:** 319 318 746 123 15 320 78 426
Step I: 15 319 318 746 123 320 78 426
Step II: 15 746 319 318 123 320 78 426
Step III: 15 746 78 319 318 123 320 426
Step IV: 15 746 78 426 319 318 123 320
Step V: 15 748 78 426 123 319 318 320
Step VI: 15 748 78 426 123 320 319 318
Step VII: 15 748 78 426 123 320 318 319

15. B F#S\$B*V



Hence, F is to the South of V.

16. C The route followed by Ritvik is as below:



Hence, Ritvik is 10 m from his house finally.

17. C The pattern followed columnarise is :
 $H(8) \times B(2) \longrightarrow P(16)$
 $C(3) \times F(6) \longrightarrow R(18)$
 Hence, the missing alphabet will be
 $?(4) \times E(5) \longrightarrow T(20)$
 $? = D$

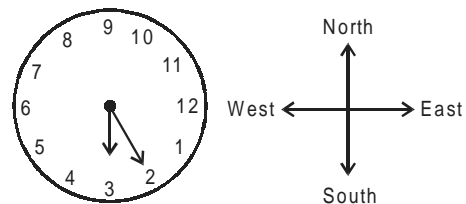
18. A The arrangement of the periods is as follows.

Day	Original	1st Interchange	2nd Interchange
Monday	Jai	Raj	Raj
Tuesday	Farid	Kajal	Jai
Wednesday	Raj	Jai	Kajal
Thursday	Kajal	Farid	Farid

Hence, Jai worked on Tuesday.

19. A The question can be best solved by picking the options one by one. Option (A) gives the two words REDUCE and EXPAND, that have opposite meanings. No other options give any two such words.

20. C In the dial, if 3 is to the South, then 12 is to the East.



So after 50 minutes the minute hand will point East.

21. C Total exports = $112.5 + 150 + 150 + 200 + 175 + 200 + 275 + 200 + 262.5 + 250 = 1975$
 Total imports = $275 + 250 + 225 + 225 + 270 + 200 + 175 + 175 + 200 + 175 = 2170$

The percentage by which exports are smaller than imports

$$= \frac{2170 - 1975}{2170} \times 100 \approx 9\%$$

22. A The absolute difference between imports and exports for the given year are :-

2002	162.5
2003	100
2004	75
2005	25
2006	95
2007	0
2008	100
2009	25
2010	62.5
2011	75

Hence, the 4th rank while arranged in ascending order is in 2010.

23. A The percentage increase in exports for the given years are:-

2003	33.33%
2004	0%
2005	33.33%
2006	-12.5%
2007	14.28%
2008	37.50%
2009	-27.27%
2010	31.25%
2011	4.76%

Hence, fifth largest increase is in the year 2007.

24. A The imports increased only in 2006 and 2010 in the entire period.

The percentage increase in

$$2006 = \frac{270 - 225}{225} \times 100 = 20\%$$

The percentage increase in 2010

$$= \frac{200 - 175}{175} \times 100 = 14.28\%$$

Hence, the second largest increase was in the year 2010.

25. A The maximum percentage increase in exports is in 2008 i.e. 37.5%.

The minimum percentage decrease in imports is in 2003 i.e.

$$= \frac{275 - 250}{275} \times 100 = 9.09\%$$

Hence, the required answer = $37.5 - 9.09 \approx 28\%$.

26. C Growth Rate = $\frac{\text{Final Value} - \text{Initial Value}}{\text{Initial Value}} \times 100$

$$\text{Iron Ore} = \frac{163 - 100}{100} \times 100 = 63\%$$

$$\text{Aluminium} = \frac{105 - 69}{69} \times 100 = \frac{36}{69} \times 100 \approx 52\%$$

$$\text{Gold} = \frac{25 - 15}{15} \times 100 = \frac{10}{15} \times 100 = 66.67\%$$

$$\text{Copper} = \frac{103 - 71}{71} \times 100 = \frac{32}{71} \times 100 \approx 45\%$$

Hence, Gold witnessed highest growth rate in production from 2005 to 2011.

27. B The given information can be tabulated as:

Year	Total Production (in million tonnes)	Absolute increase (in million tonnes)
2005	346	
2006	376	30
2007	380	4
2008	449	69
2009	462	13
2010	486	24
2011	518	32

Hence, the highest absolute increase in total production was witnessed in the year 2008.

28. A Iron Ore in 2008 = $\frac{131 - 102}{102} \times 100 = \frac{29}{102} \times 100 \approx 28\%$

$$\text{Gold in 2011} = \frac{25 - 20}{20} \times 100 = \frac{5}{20} \times 100 = 25\%$$

$$\text{Aluminium in 2008} = \frac{98 - 81}{81} \times 100 = \frac{17}{81} \times 100 \approx 21\%$$

$$\text{Gold in 2006} = \frac{18 - 15}{15} \times 100 = \frac{3}{15} \times 100 = 20\%$$

Hence, Iron Ore in 2008 has the highest annual growth rate in production.

29. B Annual average growth rate during 2006 to 2011 for Aluminium

$$= \frac{1}{5} \times \frac{105 - 75}{75} \times 100 = 8\%$$

Let the production of Aluminium in 2015 be 'A' million tonnes. Annual average growth rate during 2011 to 2015 for Aluminium

$$= \frac{1}{4} \times \frac{A - 105}{105} \times 100 = 8\%$$

$$\Rightarrow A = 105 + \frac{8 \times 4 \times 105}{100} = 138.6 \text{ million tonnes}$$

Hence, the correct option is (B).

30. D Percentage of Copper production in total minerals for

$$2010 = \frac{97}{486} \times 100 \approx 20\%$$

$$2008 = \frac{88}{449} \times 100 \approx 19.6\%$$

$$2009 = \frac{92}{462} \times 100 \approx 19.9\%$$

$$2007 = \frac{79}{380} \times 100 \approx 20.8\%$$

31. D Growth rates in production from 2006 – 2010 for

$$\text{Aluminium} = \frac{99 - 75}{75} \times 100 = \frac{24}{75} \times 100 \approx 32\%$$

$$\text{Coal} = \frac{116 - 88}{88} \times 100 = \frac{28}{88} \times 100 \approx 31.8\%$$

$$\text{Copper} = \frac{97 - 75}{75} \times 100 = \frac{22}{75} \times 100 \approx 30\%$$

$$\text{Gold} = \frac{20 - 18}{18} \times 100 = \frac{2}{18} \times 100 = 11.11\%$$

Hence, Gold witnessed the minimum growth rate in production from 2006 to 2010.

32. A

Region	2007	2010	Ratio (2010/2007)
Eastern Europe	152764	227650	1.49
Central & South America	42319	54728	1.29
West Asia	171661	235317	1.37
South East Asia	303475	409043	1.35

$$\text{Final Value} = \text{Initial Value} \left[1 + \frac{R}{100} \right]^3$$

where $R \rightarrow \text{CAGR}$.

The region for which $\frac{\text{Final}}{\text{Initial}}$ ratio is highest will have the highest CAGR.
Hence, Eastern Europe has highest CAGR.

33. A Ratio of final to initial will be calculated and if it is more than $(1.1)^3 = 1.331$ for any region, it will be considered. Eastern Europe, West Asia and South East Asia qualify for this.
Hence, there are three such regions.

34. D Highest annual growth rate is for East-Asia from 2009 to 2010 i.e. $\frac{411947 - 322797}{322797} \times 100 \approx 27.62\%$.

35. C In 2006, the external trade for LCD = $875 - 400 = 475$; for LED = $500 - 425 = 75$, Plasma = $850 - 825 = 25$.
So total external trade = $475 + 75 + 25 = 575$ units
In 2007, the external trade for LCD = 450, LED = 25, Plasma = 0
So total external trade = $450 + 25 = 475$ units
In 2008, the external trade for LCD = 400, LED = 350, Plasma = 25
So total external trade = $400 + 350 + 25 = 775$ units
In 2010, the external trade for LCD = 250, LED = 200, Plasma = 75
So total external trade = $250 + 200 + 75 = 525$ units
Hence, the highest external trade in total number of TV units is registered in the year 2008.

36. B In 2006, the export for LCD = $875 - 400 = 475$; for LED = $425 - 500 = -75$, Plasma = $850 - 825 = 25$.
Net exports = $475 - 75 + 25 = 425$ units
Similarly, in 2007, net exports = $450 + 20 + 0 = 470$ units
in 2009, net exports = $275 - 75 - 75 = 125$ units
and in 2010, net exports = $250 - 200 + 75 = 125$ units
Hence, the highest net exports is in the year 2007.

37. C Statement I: For every year, the production of LCD TVs is more than its domestic sales, i.e. net exports (exports - imports) is positive. Hence, statement I is true.
Statement II: The net exports for the years are:

Year	2006	2007	2008	2009	2010	2011
Net exports (in units)	425	470	50	125	125	25

The net exports is equal to 1220 units. Hence, statement II is not true.

Statement III: From the two bar graphs, we can conclude that only in the year 2009 has the production of Plasma TVs fell short of sales. Hence, statement III is true.

For solution 38 and 39:

38. *A Sales of Figo in 2010 = $80,000 \times \frac{9}{100} = 7,200$

$$\text{Sales of Figo in 2011} = 80,000 \times \frac{125}{100} \times \frac{44}{360} = 12,222$$

\therefore Approx. increase = $12,222 - 7,200 = 5,022$.
The closest option is option (A).

39. B Average growth rate for all the models is given as 25%. Hence, if the percentage share of a model remains constant next year, then the sales would have grown by 25%. Similarly if the percentage share would have increased or decreased, the total sales would have increased by more than 25% or less than 25% respectively.
The percentage share of all models in 2011 are:

$$\text{Alto} = \frac{111}{360} \times 100 = 30.83\%, \quad \text{Swift} = 67 \times \frac{100}{360} = 18.61\%$$

$$\text{i10} = 82 \times \frac{100}{360} = 22.78\%, \quad \text{Honda City} = 56 \times \frac{100}{360} = 15.56\%$$

$$\text{Figo} = 44 \times \frac{100}{360} = 12.22\%$$

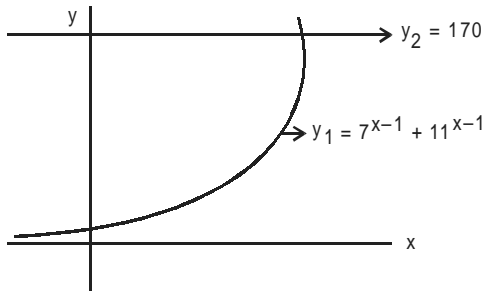
Hence the percentage share increased for 3 models i.e. Figo, i10 and Honda City.

40. C We have,
 $0.0010101 \times 10^k > 1000$
 $\Rightarrow k \geq 6$
Hence, the least value of k is 6.

41. C There could have been 3 or 4 or 5 or ... or 9, or 10 packets of chips.
Since the favorable case is that of 9 packets of chips, total number of favourable cases = ${}^9C_3 = 84$
Total number of cases = ${}^3C_3 + {}^4C_3 + {}^5C_3 + {}^6C_3 + {}^7C_3 + {}^8C_3 + {}^9C_3 + {}^{10}C_3 = 330$

$$\text{Required probability} = \frac{\text{Number of favourable case}}{\text{Total number of cases}} = \frac{14}{55}$$

42. B Let $y_1 = 7^{x-1} + 11^{x-1}$ and $y_2 = 170$. The graphs of the functions can be drawn as shown below.



From the graph, it is obvious that y_1 and y_2 intersect at only one point. Hence, the number of solution is one.

43. C Let the production in 2008 be x .
 \therefore The production in 2012 = $x \times 1.18 \times 1.18 \times 0.88 \times 1.18$
 $\approx 1.45x$
Hence, the approximate effect on cement production in 2012 will be 45% (increase).

44. B As $\log 3$, $\log (3^x - 2)$ and $\log (3^x + 4)$ are in A. P., therefore
 $2\log (3^x - 2) = \log 3 + \log (3^x + 4)$
 $\Rightarrow (3^x - 2)^2 = 3(3^x + 4)$
Let $3^x = y$
 $\therefore (y - 2)^2 = 3(y + 4)$
 $\Rightarrow y^2 - 7y - 8 = 0$
 $\Rightarrow y = 8, -1$
 $\therefore 3^x = 8$ or -1
 $\Rightarrow x = \log_3 8$ or $\log_3 (-1)$
 $\log_3 (-1)$ is not acceptable. Hence, $x = \log_3 8$.

45. C Let the groups be G_1 and G_2 . The possible cases can be tabulated as below

$G_1(5)$	$G_2(5)$
2	4
3	3
4	2

Hence, the number of ways

$$= {}^5C_2 \times {}^5C_4 + {}^5C_3 \times {}^5C_3 + {}^5C_4 \times {}^5C_2 = 200.$$

46. B The number of ways in which the answer sheets of 5 engineering students can be checked by any one of 9 professor = $9 \times 9 \times 9 \times 9 \times 9 = 9^5$

The number of ways in which answer sheets of 5 students can be checked by exactly 2 professors
 $= (2 \times 2 \times 2 \times 2 \times 2 - 2) \times {}^9C_2 = 30 \times 36 = 1080$ ways. We need to subtract two cases, as either of the professors cannot check all the five sheets.

The probability that all the 5 answer sheets are checked by

$$\text{exactly two professors} = \frac{1080}{9^5} = \frac{40}{2187}.$$

47. C The average percentage return = $\frac{3518}{25000} \times 100 = 14.072$

The percentage return from deposit in Scheme X

$$= 6 + 6 + \frac{6^2}{100} = 12.36$$

The percentage return from deposit in Scheme Y

$$= 8 + 8 + \frac{8^2}{100} = 16.64$$

Using alligation,

$$\begin{array}{ccc} 16.64 & & 12.36 \\ & \swarrow \quad \searrow & \\ & 14.072 & \\ & \swarrow \quad \searrow & \\ 1.712 & : & 2.568 \\ \Rightarrow & 2 : 3 & \end{array}$$

Hence, the amount invested = $\frac{3}{5} \times 25000 = \text{Rs. } 15000$.

48. A The probability in a household LPG will last 60 days or more = 0.8
Therefore, the probability in a household LPG will last less than 60 days = 0.2
The probability LPG will last at most 90 days = 0.6
Therefore, the probability LPG will last 60 to 90 days is = $0.6 - 0.2 = 0.4$

49. C Amount receive by every department in

$$2011 = \frac{4.5 \times 10^7}{2 \times 10^2} = 2.25 \times 10^5$$

Amount receive by every department in

$$2012 = \frac{6 \times 10^7}{2 \times 10^2} = 3 \times 10^5$$

Therefore, each department has received, 7.5×10^4 more as compared to last year

50. C Let the radius of the circular field be R metre
Total area of circular field = Land Area + Area of Tank

$$\pi R^2 = 20350 + 110 \times 130$$

$$\Rightarrow \frac{22}{7} \times R^2 = 34650$$

$$\Rightarrow R^2 = 34650 \times \frac{7}{22} \Rightarrow R = 105\text{m}$$

Hence, option (C) is the correct answer.

51. C Let the radius of the bowl and of the vessel be R . Let the height of the vessel be H .
Since radius of the cylindrical vessel is 50% more than height,

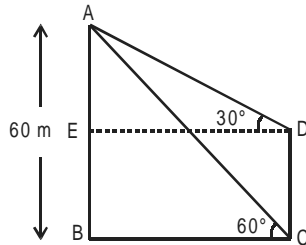
$$R = \frac{3}{2}H \text{ or } H = \frac{2}{3}R$$

$$\text{Volume of water} = \text{Volume of bowl} = \frac{2}{3}\pi R^3$$

$$\text{Volume of vessel} = \pi R^2 H = \pi R^2 \times \frac{2}{3}R = \frac{2}{3}\pi R^3$$

So cylindrical vessel must be filled to the brim.

52. C Let AB and DC be the two buildings where AB = 60 m.



As per the given information,

$$\tan 60^\circ = \frac{AB}{BC} \Rightarrow BC = \frac{60}{\sqrt{3}}$$

$$\tan 30^\circ = \frac{AE}{ED} = \frac{AE}{BC}$$

$$\Rightarrow AE = 20$$

$$\therefore EB = 40 \text{ m.}$$

Hence, height of the other building = 40 m.

53. A Let the length of one train be 'l' metre.
Therefore, length of the other train = 2l meters.
When both the train are crossing each other, their relative speed = 60 + 48 = 108 km/hr
As per the given information,

$$(2l + l) = 108 \times \frac{5}{18} \times 15 \Rightarrow l = 150 \text{ m}$$

Since the train having length 300 m crosses the bridge in 51 seconds, total distance traveled by it in 51 seconds = 850 m.
Hence, length of the bridge = 850 - 300 = 550 m.

54. A Let the total work be 240 units
Work done by a man in one day = 2 units
Work done by a woman in one day = 1 unit
Total work done in 9 days = 9 × (2 × 8 + 1 × 4) = 180 units.
Remaining 60 units will be done in $\left(\frac{60}{16+14}\right)$ i.e. 2 days

55. C Let the number of bogies be x.

$$\text{Since } \sqrt{9} \propto 15$$

$$\text{Then } \frac{3}{\sqrt{x}} = \frac{15}{45} \Rightarrow x = 81$$

When 81 bogies are attached, speed will be reduced by 45 km/hr. Hence, maximum of 80 boggies can be attached.

56. A Let the fixed cost (in Rs.) F and variable cost per student (in Rs.) be V.
 $F + 20V = 20 \times 400$
 $F + 30V = 30 \times 300$
 $\Rightarrow V = 200$ and $F = 4000$.
When there are 80 students, total expense = Rs.20,000
 \therefore Average expense per student = Rs.250.

57. A

	Soap	Toothpaste
Total quantity	20	12
CP	x	0.6x
Total cost	20x	7.2x
Quantity sold at profit	75% of 20 = 15	8
Profit	15% of 15x = 2.25x	8 × 20 = 160
SP	17.25x	8 × 0.6x = 4.8x + 160

Profit from selling these items = 2.25x + 160 = 385

$$\Rightarrow x = 100$$

$$\text{Total CP} = 20x + 7.2x = 2720$$

$$\text{Total SP} = 17.25x + 4.8x + 160 = 2365$$

$$\text{Hence, total loss} = 2720 - 2365 = \text{Rs.355.}$$

58. C Let $y = \sqrt{7 + \sqrt{7 - \sqrt{7 + \dots}}}$

$$\Rightarrow y^2 - 7 = \sqrt{7 - \sqrt{7 + \dots}}$$

$$\Rightarrow (y^2 - 7)^2 = 7 - y$$

Putting y = 1, 2, 3, 4, only y = 3 satisfies the equation.

Alternate Method:

$$\sqrt{7} < \sqrt{7 + \sqrt{7 - \sqrt{7}}} \dots < \sqrt{7 + \sqrt{7}}$$

$$\Rightarrow 2.64 < \sqrt{7} < \sqrt{7 + \sqrt{7 - \sqrt{7}}} \dots < \sqrt{7 + 2.64}$$

$$\Rightarrow 2.64 < \sqrt{7 + \sqrt{7 - \sqrt{7}}} \dots < \sqrt{9.64}$$

$$\therefore \text{From options, } \sqrt{7 + \sqrt{7 - \dots}} = 3.$$

59. C Unit digit of $(8267)^{153} \times (341)^{72}$
= ... 7¹ × ... 1² = 7.

60. D $X = Z + 1 = 31! + 1$
 \therefore The values of X + 1, X + 2 ... X + 30 are 31! + 2, 31! + 3 ... 31! + 30
Hence, none of the numbers X + 1, X + 2, ... X + 30 is prime.

61. D Let the quantity removed from the vessel be 'a' litres.

$$\frac{10}{100} = \frac{15}{100} \left(1 - \frac{a}{10}\right)^2$$

$$\Rightarrow \frac{2}{3} = \left(1 - \frac{a}{10}\right)^2$$

$$\Rightarrow a = 2 \text{ litres.}$$

62. B The number of triangles = ${}^8C_3 = 56$

$$\text{The number of quadrilaterals} = {}^8C_4 = \frac{8!}{4!4!} = 70$$

$$\text{Hence, the difference} = 70 - 56 = 14.$$

63. B Given hypotenuse = 97 m
 \therefore Sum of other two sides of the right angled triangle
 $= 234 - 97 = 137$ m
 Let a be the one of the other two sides,
 $a^2 + (137 - a)^2 = 97^2$
 $\Rightarrow 2a^2 - 274a + 9360 = 0$
 $\Rightarrow a^2 - 137a + 4680 = 0$
 $\Rightarrow a = \frac{137 \pm \sqrt{(137)^2 - 4 \times 4680}}{2 \times 1}$
 $\Rightarrow a = \frac{137 \pm \sqrt{49}}{2}$
 $\Rightarrow a = \frac{137 \pm 7}{2} \Rightarrow a = 65, 72$
 Hence, the other two sides are 65 m and 72 m.
64. D Let A's share, B's share, C's share and D's share be A, B, C and D respectively.
 $\frac{A}{B} = \frac{B}{C} = \frac{C}{D} = \frac{3}{4}$
 $\Rightarrow A : B : C : D = 27 : 36 : 48 : 64$
 \therefore The C's share $= \frac{1400 \times 48}{27 + 36 + 48 + 64} = \frac{48 \times 1400}{175}$
 $= \text{Rs. } 384.$
65. D The correct sequence is given in option (D). Clearly, I and III form a mandatory pair with the author addressing the reader by asking similar questions. V follows after I and III as it continues in the same vein posing another question to the reader. II and IV is another pair. The author elaborates in statement IV on the kind of examples he has used. Thus, option (D) is correct.
66. D II introduces the topic; hence it opens the sequence. III follows II as it mentions the solutions talked about in II. V and IV is a mandatory pair. IV suggests another measure that the ITC has taken apart from the one mentioned in V. I concludes the passage by stating the benefits of the measures mentioned before. Option (D) gives the correct sequence.
67. A The correct sentence is given in option (A). Option (B) is incorrect because of the placement of the word 'gradually'. The 'spread of freedom and prosperity' was 'gradual', not the 'thought process'. Options (C) and (D) are incorrect. The 'orderly process' has to refer to the spread of freedom and prosperity and not to the 'thought process' as mentioned in options (C) and (D).
68. C Options (A) and (D) have a parallelism error; the two verbs in the second part of the sentence (take and put) should both be in the same form- either both ending in -ing or both without it. Option (B) has a pronoun error; 'one can take from the...' should have been followed by 'as much as "one" puts back...' Thus, option (C) gives the correct sentence.
69. C 'Indefatigable' means incapable of being fatigued. Tireless is the correct synonym. Inveterate means to be confirmed in a habit. Habitual is the correct synonym. Option (C) is the correct choice.
70. B 'Misanthrope' is a person who hates or distrusts humankind, one who is against humanity. A misogynist is a person who is against women. Thus, option (B) gives the correct analogy.
71. B The correct matching is given in option (B). 'Arrogate' is to claim or seize without justification. 'Chagrin' means disappointment or distress caused due to humiliation.
72. D Option (D) gives the correct answer. Candour means 'frankness'. 'Ethereal' is something that is heavenly, not of this world.
73. D The sentence in option (A) has a pronoun error. 'Each' is singular and must be followed by a singular pronoun 'his' and not 'their'.
74. *A All the sentences in this question are grammatically incorrect. In option (A), 'why' is redundant when followed by the word 'reason'. Option (B) is incorrect; the correct sentence should be 'Before the rain stops...' Option (C) is also incorrect because 'will' has been used twice in the same sentence; the correct sentence should be 'when you come to see me...' Option (D) is incorrect because 'both' should be used after the infinitive 'to' in the given sentence. However, IIFT is likely to choose option (A) as the correct answer.
75. D 'Between' appropriately fits in the first sentence because 'between' is used to talk about distinct, individual items (two or more than two) while 'among' is used to talk about things that aren't distinct items or individuals. Since, the given sentence refers to two individual people, so the correct preposition to be used here is 'between'. This eliminates options (B) and (D). The word that aptly fits in the second blank is 'since'. 'Since' means from a certain point in time until now or between then and now while 'from' is used before the place, thing, person, etc that is the point at which an action, journey, period of time etc begins. Hence, 'from' will be used in the second sentence. Thus, option (D) is the correct choice.
76. B Option (B) has the correct sequence of words that fit in the given sentences. The only phrase that will make the third sentence meaningful is 'in consequence of' which means by reason of; as the effect of. This eliminates options (A), (C) and (D). The phrase 'by dint of' means as a result of or because of something and is appropriate in the first sentence. 'By virtue of' aptly fits in the second sentence. It means because of something; due to something. 'In case of' means if a problem occurs; if something happens; in the event that something happens. It appropriately fits in the fourth sentence.
77. D A 'metaphor' is a figure of speech in which a word or phrase is applied to an object or action that it does not literally denote in order to imply a resemblance. Hence, option (D) is correct. 'He' designates a 'lion' in the given sentence. Options (A) and (B) are incorrect as they are similes.
78. A An 'oxymoron' is a rhetorical figure in which incongruous or contradictory terms are combined. For eg., a deafening silence and a mournful optimist. 'kind cruelty' in option (A) is an oxymoron.
79. A 'Puerile' means juvenile or childish. Option (A) i.e. 'adult' is its antonym.
80. C 'Prosaic' means dull, unimaginative. 'Interesting' is its correct antonym.

81. A The correct spelling is 'exorbitant'. It means *exceeding the customary or appropriate limits in intensity, quality, amount, or size*.
82. B The correct spelling is 'acquiescence'. It means *acceptance without protest*.
83. D 'Perilous', 'precarious' and 'hazardous' are synonyms. All three words mean *dangerous*. The odd word is 'copious'. It means *abundant*.
84. B 'Propitiate', 'appease' and 'conciliate' are synonyms. All the words mean *to satisfy or make peace with*. 'Appreciate' is the odd one as it means *to recognize the quality, significance, or magnitude of something*.
85. C The third paragraph states that "Profit is not the explanation, cause, or rationale of business behavior and business decisions, but rather the test of their validity." This leads us to the opinion that profits and profitability are the test of validity of business existence.
86. A The sixth paragraph states that the concept of profit maximisation and profit motive is largely responsible for the worst mistakes of public policy. Hence, option (A) is the correct answer.
87. C The correct answer is option (C) which can be inferred from the last line of the seventh paragraph, "There is only one definition of business purpose: to create a customer."
88. A The last paragraph states that a potential want may have dominated a customer's life for a long time before being converted into a demand by the actions of business people. It is only after want and demand that there is a customer and a market. Thus we can clearly deduce that 'want' comes before the remaining options.
89. C The adjective 'vapid' means *tasteless or dull*. 'lacklustre' which means *dull or lacking in liveliness* is the correct synonym.
90. C The least talked about character in the passage is the 'Grandmother'. The author mentions her only once when he compares a cloud's shape to his grandmother's four-legged silver sugar bowl.
91. C All statements except for (C) can be inferred from the passage. The third paragraph states that the author's father was barely present at home and his mother was the only form of authority that he recognized. However, she could barely be called authoritative or tyrannical. Thus, we cannot conclude that the author came from a very authoritative home environment.
92. D The last paragraph states that on the top floor, next to the infirmary, there was supposedly a dentist. Whenever the teachers got angry, they would threaten to send the naughty students to this dentist. So option (D) is the correct answer.
93. B The first paragraph states that people thought that the time for the genteel game of knowledge, Kaun Banega Crorepati had passed. It lacked the backbiting intrigue and low-life loquaciousness of other reality shows. Thus we can say that both statements (i) and (ii) are correct.
94. D The correct answer is option (D). It can be inferred from the second paragraph where the author states that KBC is an idea that connects with something deep and real in our lives.
95. C The third paragraph states that the prize money of KBC is not a jackpot or means of indulgence, but a reward or gift from the divine for the winner's persistent efforts. Hence, option (C) is the correct answer.
96. A The last paragraph states that eventually the winners of KBC realize that relative scales make everyone a relative pauper because no one can never have enough money. So option (A) is the correct answer.
97. C The opening paragraph mentions that the monsoon season was prevailing and warm rains and monsoon air made the weather so hot and humid that even a fan above Babur's head gave him no respite. There was no pleasure in visiting the garden because he was depressed to see the sodden flowers and the soggy ground. Hence, we can say that the warm rains and monsoons made him feel depressed.
98. B The first paragraph states that given the monsoon weather, sodden flowers and soggy ground, Babur would find little pleasure in visiting his garden. Hence, he did not consider visiting it. On the other hand, second and third passages state that he considered the other options. Therefore, option (B) is the correct answer.
99. D The last paragraph states that during the war of Panipat, Babur had feared that Humayun would fall beneath the feet of the war elephants. At Khanua he feared that Humayun would be killed by a slash of the Rajut sword. However, currently he feared that Humayun might succumb to his illness/ sickness and leave Babur forever. So option (D) is the correct answer.
100. C The words 'neatly turbaned head' have been used to describe the Hakim that came to treat Humayun.
101. A 102. C 103. A 104. A 105. A 106. C
107. B 108. B 109. C 110. A 111. D 112. B
113. A 114. C 115. C 116. B 117. C 118. D
119. B 120. D 121. D 122. A 123. A 124. C
125. C 126. B 127. B 128. D