

SNAP-2011
EXPLANATORY
ANSWERS

EXPLANATORY ANSWERS

GENERAL AWARENESS

1. Swayamsidha scheme was launched in 2001 and it is dedicated to women's empowerment. Hence, [d].
2. A share swap, also known as a stock swap, is a business takeover or acquisition in which the acquiring company uses its own stock to pay for the acquired company's stock. Each shareholder of the newly acquired company receives a certain number of shares of the acquiring company's stock for each share of stock they previously held in the acquired company. A stock swap can also occur when a stock option is exercised and the original shareholders exchange their existing number of shares to receive a new greater amount. Hence, [a].
3. All options except [d] are true with respect to carbon credits. Hence, [d].
4. Only option [b] states an important difference between FII and FDI. In all the other options, the facts are reversed. Hence, [b].
5. Only statements 1 and 2 are correct with respect to Brent crude oil. Hence, [b].
6. Only statements [1] and [3] are correct with respect to India's "Look East Policy". Through the "Look East Policy", India wants to establish itself as an important regional player in the East Asian affairs and in the process also renew historical and cultural ties with its neighbours in Southeast and East Asia. Hence, [b].
7. Oilzapper is a mix of bacteria that is used to clean up an oil slick/sludge. Hence, [a].
8. Only statement 1 is true with respect to teaser loans. Hence, [a].
9. The current policy on disinvestment envisages people's ownership of CPSEs while ensuring that the Government's equity does not fall below 51% and it retains management control. Hence, [d].
10. John Ruskin is the author of the book *Unto This Last*. Hence, [d].
11. Besides USA, India has also signed the Cooperation Agreement on the Development of Peaceful Uses of Nuclear Energy with France. Hence, [c].
12. Iran is not a member of the Nuclear Suppliers Group (NSG). Hence, [d].
13. The full form of FCCB is Foreign Currency Convertible Bonds. Hence, [a].
14. The directive issued by RBI to banks, to make plans to provide banking services in villages having population of 2000, is a part of its plans for financial inclusion. Hence, [a].
15. The most common type of artificial currency is the Special Drawing Rights system created and used by the International Monetary Fund (IMF) to allow many different member nations to pay dues and transfer funds in an equitable manner. Hence, [d].
16. Statutory Liquidity Ratio is a mechanism used by commercial banks to provide credit to the government. Hence, [d].
17. Kiran Bedi was not a part of the committee formed for drafting the Lokpal Bill. Hence, [d].
18. Criminal procedure is a part of the Concurrent List. Hence, [b].
19. The uranium mine discovered at Tummalapalle in the Kadapa district of Andhra Pradesh is considered to be one of the world's biggest uranium reserves. Hence, [a].

20. Pantaloon was Kishore Biyani's first venture. Hence, [a].
21. M.S. Swaminathan is referred to as the 'Father of India's Green Revolution'. Hence, [c].
22. *Peepli Live* was directed by Anusha Rizvi. Hence, [c].
23. The point at which solid, liquid and gaseous forms coexist is called triple point. Hence, [c].
24. The limit beyond which the stars suffer internal collapse is called the Chandrasekhar limit. Hence, [b].
25. Human rights are not part of the criteria used to measure the Human Development Index. Hence, [d].
26. I-flex Solutions was a division of Citicorp before it was acquired by Oracle. Hence, [a].
27. Burma is not a member of SAARC. Hence, [c].
28. Article 343 of the Constitution of India recognizes Hindi in Devanagari Script as the official language of India. Hence, [b].
29. The health ministry is launching the National Programme for the Health Care of the Elderly to address the needs of the country's elderly. Hence, [a].
30. Only statement 1 is correct with respect to voting rights granted to non-resident Indians. Hence, [a].
31. The NDA government in Bihar has set up the Savarna Aayog commission to identify the deprived and underprivileged families among the upper castes. Hence, [b].
32. China has announced 1 billion USD aid for the reconstruction of Nalanda University. Hence, [d].
33. Indian Railways will be publishing a magazine by the name of "Rail Bandhu", to be distributed to the passengers on high-end trains. Hence, [b].
34. The task force on direct subsidies will be headed by Nandan Nilekani. Hence, [a].
35. South Africa joined BRIC in 2010. Hence, [c].
36. The first Asian Yoga Championship was hosted by Thailand. Hence, [a].
37. Saina Nehwal defeated Ji Hyun Sung of South Korea to win the Swiss Open Grand Prix Gold title. Hence, [a].
38. On March 6, 2011, the Supreme Court held that the Parliament has ample powers to enact legislation with respect to extra-territorial aspects for the security of India. Hence, [d].
39. Singapore has appointed Brigadier General Ravinder Singh as its next Army Chief. Hence, [b].
40. Anant Pai was the creator of the comic series *Amar Chitra Katha*. Hence, [d].

ANALYTICAL & LOGICAL REASONING

41. This question can be best solved by analysing each option to check the logical flow. Option [a] consists of statements C, D, F, G and H. Statement C says that if people are rewarded they will not change their lifestyle and statement F says that if the people do not change their lifestyle the temperature would rise and if the temperature rises the water level in the coastal area would rise (according to D). So, statements G, C, F and D are logically consistent, and according to them the conclusion should have been 'the water level in the coastal area rises'. So, H which says that 'water level in the coastal area does not rise' is not logically consistent with the remaining statements.

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Option [b] consists of statements G, F, D, B and H. Statement B says that people change their lifestyle only if they are rewarded. This does not mean that they will definitely change their lifestyle whenever they are rewarded. So even if G takes place, we do not know its effects. So, H cannot be concluded.

Option [c] consists of statements E, F, G, H and B. From the set of statements given in option [c] we cannot arrive at any conclusion. Hence, [d].

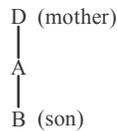
42. This question can be best solved by analysing each option to check the logical flow.

Option [a] consists of statements C, F, G, B and H. Statement F says that if Kumar has sung then Vina has danced, but if Vina has danced Kumar may or may not have sung. Since we do not know for sure whether Kumar has sung or not, we cannot ascertain whether the audience has danced or not, hence we cannot conclude if the concert was successful or not. So, H cannot be concluded from the given set of statements.

Option [b] consists of statements A, C, F, G and H. Statement A is not consistent with any of the other statements. So, option [b] can be eliminated. This also eliminates option [d].

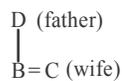
Option [c] consists of statements E, C, G, B and H. From statements E and G we know that Vina has danced and that Kumar has sung. Since we know that Kumar has sung, then based on statement B we can conclude that the audience would have danced. And if the audience has danced then according to statement C the concert would be successful. Hence, we can conclude H. Hence, [c].

43. (I)



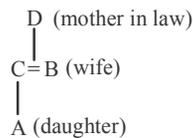
No information about C is given, hence statement is false.

(II)



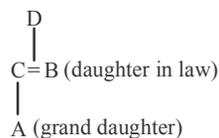
No information about A is given, hence false

(III)



The greater of A and B cannot be determined, hence statement is false.

(IV)



Here CB is couple

Hence, statement is true.

Hence, [d].

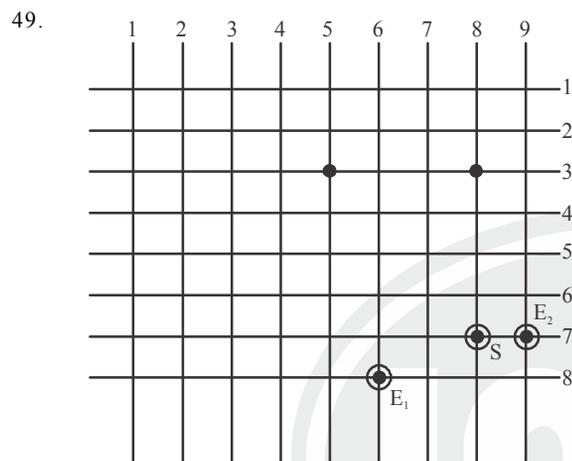
44. B is C's wife.

Hence, [c].

45. From above family-tree, only last option can be concluded that is B's daughter always tells lies.

Hence, [d].

46. The cube of $7 \times 7 \times 7$ dimensions is cut into cube of $1 \times 1 \times 1$ dimensions. To find the number of cubes having no colour, one layer of cubes have to be removed from the layers present.
 \therefore Number of cubes = $(7 - 1)^3 = 6^3 = 216$
 Hence, [d].
47. There will be 36 cubes on 3 faces wherein cubes have only one colour on them hence $36 \times 3 = 108$
 Hence, [a].
48. There is only one cube which has more than 2 faces painted.
 $\therefore 343 - 1 = 342$ cubes have almost two faces painted.
 Hence, [b].



- Amit travels from S to E₁, so he will be back to S if he travels 1 km north and 3 km east.
 Hence, [b].
50. Amit goes from E₁ to E₂, he is 1 km away from starting point. Hence, [c].
51. $X = 3, Y = 2, N = 100$
 $X = XY \quad Y = Y + 1$
 1) $X = 6, Y = 3$
 2) $X = 18, Y = 4$
 3) $X = 72, Y = 5$
 4) $Y = 360, Y = 6$
 Machine stops after 4 steps since $X = 360, 360 > 100$. Hence, [c].
52. Final value of $X = 360$
 Hence, [d].
53. Final value of $Y = 6$
 Hence, [c].
54. If $N = 500$ one more step is added
 $X = 2160, Y = 7$, now machine stops since $2160 > 500$
 Hence, [d].

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55. $X = 2, Y = 3$
 $X = 6, Y = 4$
 $X = 24, Y = 5$
 $X = 120, Y = 6$
 $X = 720, Y = 7$

Minimum value of N for $Y = 7$ is 121 from options 300 is closest to 121. Hence, [a].

56. Given $V > P > A$
 Also, R is rank 1 and T is rank 7

1	R
2	
3	
4	
5	A
6	S
7	T

Ranks 2, 3, 4 are taken by V, P and D .
 Hence, [d].

- 57.

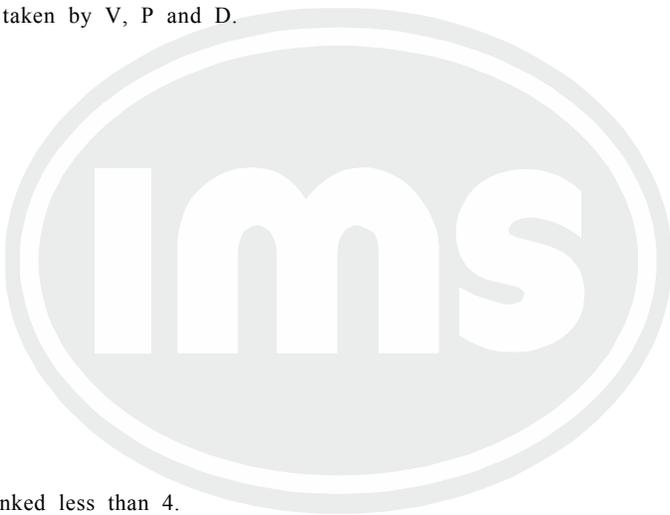
1	R
2	
3	
4	V
5	P
6	A
7	T

Given R is rank 1
 So T is rank 7
 $V > P > A$
 So V cannot be ranked less than 4.
 Hence, [c].

58. Given R is rank 2 and A is rank 1 but from given conditions
 $V > P > A$
 So, this arrangement is not possible.
 Hence, [d].

- 59.

1	R
2	S
3	
4	
5	
6	
7	T



Given, S is ranked second hence R is ranked 1 and T is ranked 7 also $V > P > A$
 Hence only possibility is $D > V$
 Hence, [a].

60.

1	S
2	
3	
4	
5	V
6	P
7	A

Given, V is ranked 5
 $V > P > A$
 So A is ranked 7 hence as per given condition S is ranked 1. Hence, [a].

61. Options [a] and [d] are very generic statements and they neither strengthen nor weaken the conclusion. Option [b] does not state clearly which party is getting more votes as it only gives the percentage of people voting from each party and not the absolute numbers on which this percentage is based. Only option [c], which states that merely 35% of the people favour party 'Z', weakens the conclusion. Hence, [c].
62. [b] and [c] cannot be logical reasons for the stock prices remaining steady. [a] and [d] both seem somewhat appropriate. However, both options fail to explain why the reaction would sustain for three quarters.
63. The word pair in the question stem signifies opposite ends of life: 'birth' means 'the beginning of life' and 'dirge' is a 'funeral song'. A similar relationship is displayed in option [c], where 'marriage' is the 'beginning of a matrimonial relationship' and 'alimony' is 'the sum of money paid to one's spouse when a marriage is dissolved'. Hence, [c].
64. The main argument contains an observation and then a conclusion drawn from that. Similarly, (d) contains an observation (During warm weather my dog suffers more fleas than during cool weather.) and a conclusion (Therefore, fleas must thrive in a warm environment). Note: in the main argument a conclusion is followed by an observation; in [c] it is reverse. Hence, [d].
65. As some industries run by self-employed industrialists are included in national productivity measures, these must not be underground. If they were underground, they could not have been included in the national productivity measures. Hence, [d].
66. The reasoning followed in the given statement is based on the assumption that receiving a violation from the Federal Aviation Administration is the only obstruction to becoming a great pilot. Hence, [c].
67. In the given argument, the author begins by stating the general opinion about the death penalty. He then provides an example of one particular serial killer, which contradicts the belief held by many people, and draws a conclusion based on it. Thus, the above argument may best be characterized as a general conclusion based on a specific example. Hence, [c].
68. From given diagram the number at middle of each row is sum of the numbers in the row divided by 2

$$3 = \frac{4+2}{2}$$

$$5 = \frac{5+3+1+1}{2}$$

$$\text{Similarly required number} = \frac{9+3}{2} = 6$$

Hence, [d].

69. Only option [c], which states that if the restrictions against advertisements are removed then more lawyers will advertise their services, follows from the information given in the passage. [a] contradicts the information provided in the passage, so it cannot be true. There is no information given in the passage to suggest that either [b] or [d] can be true. Hence, [c].
70. Only option [d], which states that lawyers may not lower their fees when they begin to advertise, most weakens the argument that consumer legal costs would reduce if the state removes restrictions against advertisements that do not specify fee arrangements. The remaining statements neither strengthen nor weaken the argument. Hence, [d].

QUANTITATIVE & DATA INTERPRETATION & DATA SUFFICIENCY

71. Speed of train = 36 kmph

$$= 36 \times \frac{5}{18} = 10 \text{ m/s}$$

Train crosses the man in 10 seconds

$$\therefore \text{Length of train} = 10 \times 10 \\ = 100 \text{ m}$$

Let length of platform = ℓ

$$\frac{100+\ell}{16} = 20$$

Since train crosses platform in 20 seconds

$$\therefore \ell = 100 \text{ m}$$

Hence, [b].

72. A man walks at $\frac{4}{5}$ th of his usual speed.

So he will take $\frac{5^{\text{th}}}{4}$ of usual time

Thus he will take $\frac{1^{\text{th}}}{4}$ of time extra $\frac{1^{\text{th}}}{4}$ of usual time = 10 mins

\therefore Usual time = 40 mins

Hence, [b].

73. Total distance covered = 81 miles

$$\frac{\text{Speed of man}}{\text{Speed of woman}} = \frac{5}{4}$$

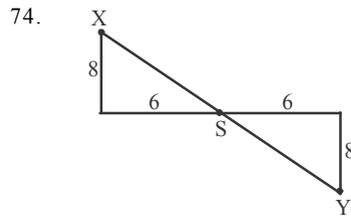
Distance is covered in ratio of speeds

$$\frac{\text{Distance of man}}{\text{Distance of woman}} = \frac{5}{4}$$

$$\therefore \text{Distance of woman} = \frac{4}{9} \times 81$$

$$= 36$$

Hence, [b].



Let S be starting position and X and Y be ending position from diagram the distance travelled by them is given by $\sqrt{8^2 + 6^2} = 10$ miles

Hence, [b].

75. Given, 4 men and 3 women can do work in 6 days $4M + 3W = 6$

$$\therefore 24M + 18W = 1$$

24M and 18 women can do job in 1 day.

Also,

5 men and 6 women can do job in 4 days

$$5M + 6W = 4$$

$$\therefore 20M + 24W = 1$$

$$\text{So, } 24M + 18W = 20M + 24W$$

$$\therefore 2M = 3W$$

$$\text{Now, } 2W + 3M = 2W + \frac{9}{2}W = \frac{13}{2}W$$

9W can do work in 6 days

$$\therefore 9 \times 6 = \frac{13}{2} \times D$$

$$\therefore D = 8.3 \text{ days}$$

Hence, [c].

76. Ram completes 60% task in 15 days

Let total work be 100 units

60 is done in 15 days

$$\therefore \text{Efficiency of Ram} = 4 \text{ units}$$

Efficiency of Rahim = 2 units

Efficiency of Rachel = 1 unit

Total efficiency = 7 units

Work remaining = 40 units

$$\therefore \text{Number of more days needed} = \frac{40}{7}$$

Hence, [c].

77. A and B do work in 21 and 24 days respectively.

Let work be 168 units (LCM of 21 and 24)

Efficiency of A = 8 units

Efficiency of B = 7 units

B works alone for 9 days

$$\begin{aligned}\therefore \text{Work done} &= 9 \times 7 = 63 \\ \therefore \text{Work done by them together} &= 168 - 63 \\ &= 105\end{aligned}$$

$$\text{Number of days required} = \frac{105}{(8+7)} = 7$$

\therefore A left after 7 days
Hence, [b].

78. Profit offer selling 100 article = SP of 75 articles
SP of 100 articles – CP of 100 articles = SP of 75 articles
SP of 25 articles = CP of 100 articles
 \therefore Just after selling 25 articles the cost of 100 articles is recovered

$$\therefore \text{Profit} = \frac{\text{goods remained}}{\text{goods sold}} \times 100$$

$$= \frac{75}{25} \times 100$$

$$= 300\%$$

Hence, [c].

79. Let speed of X and B be S_A and S_B respectively.
Time required by X to complete race = t seconds from given conditions
 $100 = S_A \times t$
 $80 = S_B \times (t + 5)$

$$\therefore \frac{S_A}{S_B} = \frac{5(t+5)}{4t}$$

Also given

$$100 = S_A \times t_1$$

$$60 = S_B \times t_2$$

$$\therefore \frac{S_A}{S_B} = \frac{5}{3}$$

$$\therefore \frac{5}{3} = \frac{5}{4} \times \frac{(t+5)}{t}$$

$$\therefore t = 15$$

If for 100m, A requires 15 seconds, then for 200 m he requires 30 seconds. Hence, [c].

80. Given a cube having side = 4cm
 \therefore Surface area = 6×4^2
 $= 96$ sq. cm.
Now cube of 4 cm is cut into 1 cm cubes
 \therefore Number of cubes forward = $4^3 = 64$
Surface area of all new cubes = $64 \times 6 \times 1^2$
 $= 384$ sq. cm

$$\text{Percentage increase in surface area} = \frac{384-96}{96} \times 100 = 300\%$$

Hence, [b].

81. Given $G236G0$ is divisible by 36
 Splitting 36 into co-primes
 $G236G0$ is divisible by 9 and 4
 $11 + 2G$ is divisible by 9 from options, when we put $G = 8$, $11 + 2 \times 8 = 27$ is divisible of 9 rest other options do not satisfy this condition.
 Hence, [a].

82. Amit can do work in 12 days
 Sagar can do work in 15 days
 Let total work be 60 units
 Efficiency of Amit = 5 units
 Efficiency of Sagar = 4 units
 Total efficiency = 9 units
 Work done in 4 days = $9 \times 4 = 36$ units
 Work remained = 24 units

$$\therefore \text{Fraction of work remained} = \frac{24}{60} = \frac{2}{5}$$

Hence, [c].

83. Let for rectangular park

$$\ell = 60 \text{ m}$$

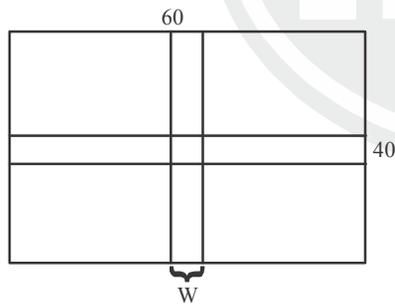
$$b = 40 \text{ m}$$

$$\therefore \text{Area of park} = 60 \times 40 \\ = 2400 \text{ sq. m}$$

$$\text{Area of lawn} = 2109 \text{ sq. m}$$

$$\therefore \text{Area of cross road} = 291 \text{ sq. m}$$

$$\text{Also area of cross road is given by } 60 \times W + 40 \times W - W^2 = 291$$



$$\therefore W^2 - 100W + 291 = 0$$

$$W = 97 \text{ or } W = 3$$

$$\text{But } W < 60 \therefore W \neq 97$$

$$\therefore \text{Width} = 3 \text{ m}$$

Hence, [b].

84. Bag I contains 5 white and 3 black balls
 Bag II contains 4 white and 5 black balls

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Probability of selection of any of bags is $\frac{1}{2}$

Probability of selection of one white and one black ball from any of the bag is given by

$$\frac{1}{2} \left(\frac{{}^5C_1 \times {}^3C_1}{{}^8C_2} + \frac{{}^4C_1 \times {}^5C_1}{{}^9C_2} \right)$$

$$\frac{1}{2} \left(\frac{275}{252} \right) = \frac{275}{504}$$

Hence, [a].

85.

Consumption	Year
60	2006
80	2007
111	2008
100	2009
135	2010

For 2007, % increase = $\frac{20}{60} \times 100 = 33.33\%$

For 2008, % increase = $\frac{31}{80} \times 100 = 38.75\%$

For 2009, there is decrease in consumption

For 2010, % increase = $\frac{35}{100} \times 100 = 35\%$

For 2008, % increase is highest.

Hence, [b].

86. Population = $\frac{\text{Consumption}}{\text{Per Capita Consumption}}$

$$= \frac{111}{40} \approx 2.79 \text{ million}$$

Hence, [c].

87.

Exports/ Consumption	Year
$\frac{120}{60} = 2$	2006
$\frac{120}{80} = 1.5$	2007
$\frac{130}{111} = 1.2$	2008
$\frac{120}{105} = 1.14$	2009

Hence ratio is highest in 2006.

Hence, [a].

88.

Population of A	Year
$\frac{80}{30} = 2.6$	2007
$\frac{111}{40} = 2.78$	2008
$\frac{100}{40} = 2.5$	2009
$\frac{135}{45} = 3$	2010

Hence population of A is highest in 2010.

Hence, [d].

89. From diagram, the percentage of time spent in school = $\frac{105}{360} \times 100 \approx 30\%$

Hence, [b].

90. $\frac{\text{Games}}{\text{Sleeping}} \times 100 = \frac{30}{120} \times 100$

= 25%

Hence, [c].

91. Time of games = Time of sleeping

So time of games become as from 30°

So time of sleeping reduces from 120° to 105

\therefore % decrease = $\frac{120-105}{120} \times 100$

= 12.5%

Hence, [b].

92. Difference in time of homework and games

= $\frac{105^\circ - 45^\circ}{360} \times 24$

= $\frac{60^\circ}{360} \times 24 = 4$ hours

Hence, [c].

93. Number of hours spent in homework = $\frac{45}{360} \times 24$

= 3

1 hour is spent on Mathematics, so 2 hours is spent on other subjects. Hence, [b].

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94. From diagram,

$$\frac{AB}{BC} = \frac{DE}{EF}$$

$$\frac{2}{4} = \frac{1.5}{DF}$$

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

Hence, [b].

95. $\log_{10}10 + \log_{10}10^2 + \dots + \log_{10}10^n$

$$\log_{10}10 = 1$$

$$\log_{10}10 + 2\log_{10}10 + \dots + n\log_{10}10$$

$$1 + 2 + \dots + n = \frac{n^2 + n}{2}$$

Hence, [d].

96. $N + \frac{1}{N} = 3\left(N - \frac{1}{N}\right)$

Where N is required number

$$N^2 = 2$$

$$W = 1\sqrt{2}$$

Hence, [a].

97. Natural numbers between 10 and 300, divisible by 9 is $\frac{297-18}{9} + 1 = 32$

Hence, [a].

98. Given

$${}^nC_x = 56$$

$$\therefore \frac{n!}{(n-x)!x!} = 56$$

$${}^nP_x = 336$$

$$\therefore \frac{n!}{(n-x)!} = 336$$

$$\therefore \frac{336}{x!} = 56$$

$$x! = 6$$

$$x = 3$$

$$\text{Now } {}^nC_3 = 56$$

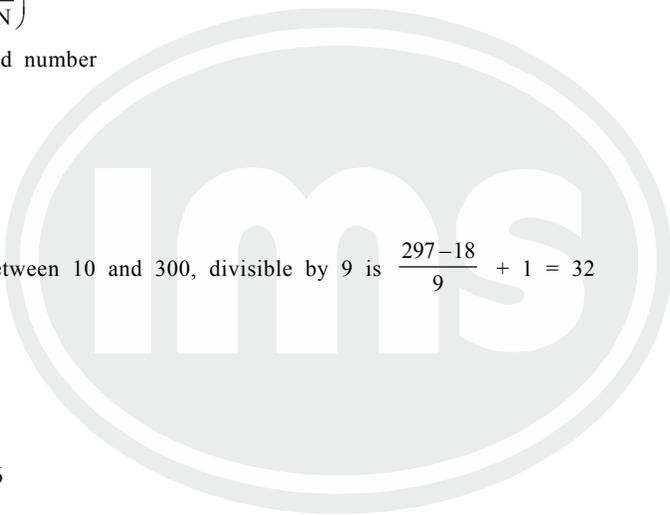
$$n \frac{(n-1)(n-2)}{3 \times 2 \times 1} = 56$$

$$n(n-1)(n-2) = 336$$

$$\text{put } n = 8$$

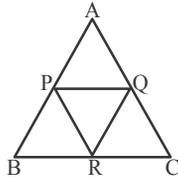
$$\therefore 8 \times 7 \times 6 = 336$$

$$\therefore n = 8$$



Thus $n = 8$, $x = 3$
Hence, [c].

99.



Given ΔABC of side 24 cm
 ΔPQR is formed by joining mid point of ΔABC

$$\therefore PQ = \frac{1}{2}BC$$

$$\therefore PQ = 12 \text{ cm}$$

Similarly $QR = PR = 12 \text{ cm}$

Perimeter of $\Delta ABC = 72 \text{ cm}$

Perimeter of $\Delta PQR = 36 \text{ cm}$

When midpoints of triangles are joined successively, perimeter, reduces by half.

Thus sum of all perimeters is $72 + 36 + 18 + \dots$

$$= \frac{72}{1 - \frac{1}{2}} \quad \text{[for infinite sum} = \frac{a}{1-r}]$$

$$= 144 \text{ cm}$$

Hence, [a].

100. Leap year has 366 days
i.e, 52 weeks and 2 days

So every leap year has 52 Sundays and 52 Mondays compulsarily.

For remaining 2 days, possible combinations are

Sunday	Monday
Monday	Tuesday
Tuesday	Wednesday
Wednesday	Thursday
Thursday	Friday
Friday	Saturday
Saturday	Sunday

Out of 7 combinations, Sunday or Monday appear in 3 combinations. Hence, required probability = $\frac{3}{7}$.

Hence, [c].

101. Given, $3x + 4y - 12 = 0$
 $3x + 4y = 12$

$$\frac{x}{4} + \frac{y}{3} = 12$$

Thus, x intercept is 4 and y intercept is 3.

Hence, [b].

SNAP

102. Given a and d are equidistant from 36

$$\text{Let } d = 43$$

$$\therefore a = 29$$

Now c and d are equidistant from 40

$$d = 43$$

$$\therefore c = 37$$

b and c are equidistant from 34

$$c = 37$$

$$\therefore b = 31$$

$$\therefore |a - d| = 43 - 29$$

$$= 14$$

Hence, [b].

103. SP of rasgulla = 15

$$\text{Profit percent} = 66\frac{2}{3}$$

$$= \frac{200}{3}$$

$$\therefore \text{Profit} = \frac{2}{3}$$

$$\therefore \text{CP} = \frac{3}{5} \times 15 = 9$$

$$\text{Cost of sugar} = \frac{7}{10}x$$

$$\text{Rest of flour} = \frac{3}{10}x$$

$$\text{Weight of sugar} = \frac{3}{8}$$

$$\text{Weight of flour} = \frac{5}{8}$$

$$\frac{7}{10}x \times \frac{3}{8} + \frac{3}{10}x \times \frac{5}{8} = 9$$

$$\frac{21x}{80} + \frac{15x}{80} = 9$$

$$36x = 9 \times 80$$

$$x = 20$$

$$\therefore \text{Cost of sugar} = \frac{7x}{10} = \frac{7}{10} \times 20 = 14 \text{ Rs/kg}$$

Hence, [d].

104. Given the price reduces by 20%

Thus price becomes $\frac{4}{5}$ of original

So quantify becomes $\frac{5^{\text{th}}}{4}$ of original

Thus quantity increases by $\frac{1^{\text{th}}}{4}$ of original given. $\frac{1^{\text{th}}}{4}$ of original = 6 kg

∴ Original quantity = 24 kg

Total cost = 240 Rs.

∴ Original price 1 kg = $\frac{240}{24} = 10$ Rs/kg

Hence, [a].

105. Volume of sphere = $\frac{4}{3} \pi r^3$

where r is radius

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

Where r is radius

h is height

$$\pi r^3 = \frac{\pi}{3} r^2 h$$

$$h = 4r$$

$$\therefore \frac{h}{r} = \frac{4}{1}$$

Hence, [d].

106. Let speed of scooter, car, train be S_s , S_c and S_t respectively.

Given $S_s : S_c : S_t = 1 : 4 : 16$

$$\text{Time} \propto \frac{1}{\text{Speed}}$$

$$\begin{aligned} \therefore T_s : T_c : T_t &= \frac{1}{1} : \frac{1}{4} : \frac{1}{16} \\ &= 16 : 4 : 1 \end{aligned}$$

$$\therefore \frac{T_s}{S_s} : \frac{T_c}{S_c} : \frac{T_t}{S_t}$$

$$= \frac{16}{1} : \frac{4}{4} : \frac{1}{16}$$

$$= 256 : 16 : 1$$

Hence, [a].

107. Let efficiency of A = 1 unit

∴ Efficiency of B = 2 units

A can do work in 15 days

∴ Work = 15 units

A started the work and then B joined him

Total number of days required = 11

SNAP

In 11 days work done by A = 11 units
 Remaining 4 units are done by B, when they work together

$$\therefore \text{Number of days they work together} = \frac{4}{2}$$

$$= 2 \text{ days}$$

Hence, [b].

108. Given,

$$A + B + C + D = 56 \quad \dots (1)$$

$$B + C + D = 4.6 A \quad \dots (2)$$

$$A + C + D = 3.66 B \quad \dots (3)$$

$$C = 0.4 (A + B + D) \quad \dots (4)$$

From (1) and (4)

$$A + B + 0.4 (A + B + D) + D = 56$$

$$1.4 (A + B + D) = 56$$

$$\therefore A + B + D = 40$$

$$\therefore C = 16$$

From (2)

$$4.6 A - (B + D) = 16$$

$$A + (B + D) = 40$$

$$\therefore A = 10$$

$$\text{So, } B + D = 30$$

From (3),

$$26 + D = 3.66 B$$

$$26 + D = \frac{11}{3} B$$

$$78 + 3D = 11B$$

$$11B - 3D = 78$$

$$3B + 3D = 90$$

$$\therefore B = \frac{84}{7}$$

$$D = 30 - \frac{84}{7}$$

$$= \frac{126}{7} = 18$$

$$D = 18$$

Amount contributed by D = 18 lakhs

Hence, [d].

109. Let salary of Saroj be 100

$$\therefore \text{Salary of Raju} = 80$$

$$\text{and Salary of Ramu} = 70$$

$$\therefore \frac{80-70}{70} \times 100 = 14.28\%$$

Hence, salary of Raju is 14.28% higher than Ramu.

Hence, [d].



110. Volume remains same in both cases

By given condition

$$V_1 = V_2$$

$$\pi r^2 h_1 = \pi \left(\frac{r}{3}\right)^2 h_2$$

$$\therefore h_2 = 9h_1$$

Hence, [d].

GENERALENGLISH

111. 'Triumph' means 'victory'. Hence, [d].
112. According to the fifth sentence of the passage "But the magnificent.....only for a time.", the living should look at life for only a short while. Hence, [c].
113. 'Rapture' means 'ecstatic joy'. Hence, [d].
114. One sees 'a reflection' of any image that falls on the surface of the water. So, by the last line the author means that the mind is only a reflection of the self. He doesn't want to say that there is no such thing as 'mind', he just wants to say that it has no meaning by itself. Hence, [d].
115. In the passage the author is talking about the marvel of being alive and being a part of the cosmos. So, 'philosophical', which is used to describe 'the rational investigation of the truths and principles of being, knowledge or conduct', best describes the tone of the passage. 'Reflective' is not wrong, but the subject of the passage is philosophical so [d] is better. Hence, [d].
116. The passage talks about how wonderful it is to be alive and how one should experience the joy of living, so 'Alive and Kicking' would be the most suitable title for this passage. Hence, [d].
117. The repetition of messages or the use of superfluous expressions is called redundancy. Hyperbole is the use of exaggeration as a rhetorical device or figure of speech. Alliteration is the repetition of an initial consonant sound and allegory is the figurative treatment of one subject under the guise of another. Hence, [a].
118. The words in the question stem signify how one object is used with respect to the other i.e. ink is poured into the pen which is then used for writing on a paper. A similar relationship is displayed in option [d]; colour is put on a brush which is then used for painting on a canvas. Option [b] is eliminated as the words are in reversed order. Hence, [d].
119. 'Realia' is a Latin word which means 'objects used by a teacher to illustrate everyday living' or 'things that are real'. The best answer in the given options is 'objects from real life'. Hence, [c].
120. Only option [d] is grammatically correct. Use of 'are' is incorrect in option [a]. There is subject-verb disagreement in options [b] and [c]. Hence, [d].
121. Only option [a] is grammatically correct. In options [b] and [c] the use of the definite article 'the' before the common nouns 'house' and 'street' is incorrect. 'House' in the latter part of option [d] should be preceded by the definite article, as it has already been mentioned in the first part of the sentence. Hence, [a].
122. Only option [c] is grammatically correct. Options [a] and [b] use an incorrect preposition ('to' and 'for' respectively). 'Compare to' used to liken two things. Option [d] is illogical. Hence, [c].
123. Only option [a], which uses the restrictive pronoun 'that' to specify the amount being spoken of, is grammatically and logically correct. The use of 'what', 'for which' and 'wherein' in the other sentences is incorrect. Hence, [a].

124. There is tense inconsistency in all the options except option [d]. Hence, [d].
125. A moving vehicle crashes 'into' something, so only option [b] is correct. Hence, [b].
126. 'Referred to' means 'spoken of'. From the given options, only 'described as' is synonymous with 'referred to'. Hence, [a].
127. 'Independent' means 'not influenced or controlled by others in matters of opinion'. So, 'impartial', which means 'unbiased', is the best choice. Hence, [b].
128. 'Deter' means 'to discourage or restrain from acting or proceeding'. From the given options, only 'prevent' is synonymous with 'deter'. Hence, [b].
129. 'Grievances' are 'complaints or resentments'. Hence, [a].
130. 'Ombudsman' is 'a government official who hears and investigates complaints by private citizens against government officials or agencies'. Hence, [a].
131. The use of the preposition 'about', which means 'of', in part [c] of the sentence is incorrect. One discusses the problem, not about/of the problem. Hence, [c].
132. The error is in part [b] of the sentence. The sentence requires only a single 'had' to express the fact that during his time, Ramakrishna had tremendous influence over many followers. Hence, [b].
133. The error is in part [c] of the sentence. The use of 'again' is redundant after 'to repeat', as both mean the same thing i.e. 'once more'. The usage 'inquire with' is also nonstandard, but the other error is more glaring. Hence, [c].
134. The sentence is grammatically correct. Hence, [d].
135. An obvious link in the sequence is RS, which is present only in option [a]. Hence, [a].
136. P connects seamlessly with the last part of the sentence, so it should be placed at the end of the sequence. In the given options, only option [b] has P at the end of the sequence. Hence, [b].
137. 'Comprises' which means 'consists of' is correct. Hence, [b].
138. The sentence requires a pronoun in the objective case, so 'me' is the correct option. Hence, [b].
139. Parts of a country behind the coast or a river's banks are known as 'hinterland'. Hence, [c].
140. Options [a] and [c] are grammatically incorrect. Option [b] is in the present perfect tense, whereas, the sentence given in the question is in the present continuous tense. Only option [d] expresses the sentence correctly in the passive voice. Hence, [d].
141. The passive form of the given sentence is 'The wine should be opened by you about three hours before it is used by you'. The use of 'by you' in such sentences is optional. So, the correct option is [d]. Option [a] is incomplete. 'About' has been omitted in option [b], which changes the meaning of the sentence. In option [c], the latter part of the sentence – 'before you use it' – has not been converted to passive voice. Hence, [d].
142. Q, which describes polymers that have been mentioned in S1, comes first in the sequence. R follows Q by adding to the description of polymers. S, which states where the polymers that are being developed are used, follows R. So, the correct sequence is QRSP. Hence, [a].
143. 'Frugality' means 'prudence in saving'. 'Economy', which means 'thrifty management', is the best choice. Hence, [d].

144. 'Harbinger' means 'a person who goes ahead and makes known the approach of another'. So, 'forerunner', which means 'a person who goes or is sent in advance to announce the coming of someone or something that follows', is the best choice. Hence, [c].
145. 'Exodus' means 'a going out'. 'Influx', which means 'arrival' or 'act of flowing in', is its opposite. Hence, [a].
146. 'Equanimity' means 'calmness'. 'Excitement' is its opposite. Hence, [d].
147. 'Bludgeon', 'blackjack' and 'order' all mean 'to direct or force someone into something'. Hence, [b].
148. 'Kernel' is the soft edible part contained inside the shell of a nut or the stone of a fruit. Similarly, a 'caterpillar', till it is not fully evolved, is inside the 'pupa'. A 'larva' builds a 'cocoon' around itself for protection, hence it can be said that the cocoon contains the larva. A 'passenger' is also seated inside the 'car'. 'Lassitude' is used to define 'a state of physical or mental weariness' and 'syncope' is used to describe 'loss of consciousness'. These two words do not express the same relationship expressed by the word pair in the question. Hence, [c].
149. The sentence implies that an activity, which had started in the past, is still going on. From the given options, only option [c] expresses this correctly. Hence, [c].
150. 'Although' is used to express contradictory ideas. In the options, only option [d] contradicts the first part of the sentence. Hence, [d].

